

The Times and Register.

Vol. XXIV, No. 24.

NEW YORK AND PHILADELPHIA, JUNE 11, 1892.

Whole No. 718.

PAGE	PAGE	PAGE
CLINICAL LECTURE.	LETTERS TO THE EDITOR.	Sinuses. Wilson - - - - - 628
THE NECESSITY FOR EARLY CORRECTION IN CONGENITAL CLUB-FOOT. By H. Augustus Wilson, M.D. - - - - - 611	Antidote for Tobacco. Tidrick - - - - - 627	Early Recognition of Incipient Hip Disease in the Prevention of Deformity. Wilson - 629
ORIGINAL ARTICLES.	A Wart Story. Lewis - - - - - 627	Apparatus for Pott's Disease. Wilson - 629
ORTHOPEDIC SURGERY. By J. W. Coker- hower, A.M., M.D. - - - - - 614	THE MEDICAL DIGEST.	Lateral Curvature of the Spine. Wilson - 630
POINTS IN THE OFFICE PRACTICE IN THE TREATMENT OF THE DISEASES OF WOMEN. By Charles P. Noble, M.D. - 615	Diagnosis of Ulcerations of the Tongue. Fournier - - - - - 625	Tubercular Synovitis of Knee. Wilson - 631
ABDOMINAL SURGERY IN THE WOMAN'S HOSPITAL OF PHILADELPHIA. By Anna M. Fullerton, M.D. - - - - - 619	The Meaning of a Baby's Footprint. Robin- son - - - - - 627	Spasmodic Torticollis. Shively - - - - - 631
EDITORIAL.	Pyoktanin in Tubercular Sinuses. Wilson - 628	Alcohol as a Food. Bacteriological World - 631
PEROXIDE OF HYDROGEN - - - - - 626	Use no Anæsthetic in Examining for Hip- joint Disease. Wilson - - - - - 628	Inhalation of Oxygen in Obstetrics. Riviere 632
ORTHOPEDIC SURGERY - - - - - 626	A New Apparatus for Preparing Dry Gyp- sum Bandages. Wilson - - - - - 628	Treatment of Pleurisy. Richards - - - 632
	Immobilization in Hip-joint Disease. Wil- son - - - - - 628	New York Hospitals Formulary. The Pre- scription - - - - - 635
		MEDICAL NEWS AND MISCELLANY, 637
		NOTES AND ITEMS - - - - - iv, viii

Clinical Lecture.

THE NECESSITY FOR EARLY CORRECTION IN CONGENITAL CLUB-FOOT.¹

By H. AUGUSTUS WILSON, M.D.,
Clinical Professor of Orthopedic Surgery.

GENTLEMEN: The cases brought before you this morning are of considerable interest, and I would like to have you try to place yourselves in the position, in which, as medical men, you must be placed when called upon to decide how to correct similar deformity, at what age it should be done, how long your efforts at correction should be continued, and what will be the condition of the feet in after life.

The first patient, aged three months, is one with equino-varus, that was sent here by a graduate of the school. In the first place let us observe the position of the foot; it is the typical position of equino-varus, for the reason that there is present a compound variety of talipes. The inversion, or turning in, is very pronounced; if the patient could walk it would do so upon the outer side of the foot. There is equinus, because the heel would not touch the ground in walking. Both of these conditions being present in the same foot requires for its description a name which will designate the presence of the compound variety, and therefore it is called equino varus. The question now arises as to the degree of severity of the condition in this case, to determine the character of the remedial measures to be employed. By gentle pressure I can completely overcome the varus, but I am unable to overcome the equinus. The tendo-achilles, or the gastrocnemius muscle is shortened, hence this difficulty. The articulating facet of the astragalus is

dislocated from the natural position in contact with the tibia, and is decidedly prominent upon the outside of the foot, and the astragalus itself is undoubtedly malformed. Here, then, is the case before you; now the question arises, What shall be done, and how soon shall the treatment be started? Let us consider the arguments on both sides as to the earliest moment that correction would be advisable, and with that object in view, let us take as a basis the period at which the centers of ossification appear in the tarsal bones. That of the astragalus shows itself at the seventh month of foetal life, and it is the astragalus that in the large majority of cases of congenital club-foot is the principle, although not the only, disturbing factor. The os-calsis has two centers of ossification; one of which appears at the same time as that of the astragalus—the seventh month; and the second, that for the great tuberosity, appears at the tenth year. The center for the scaphoid appears at the fourth year; for the cuboid, at birth; and for the three cuneiform bones, between the first and third years. If these bones of the tarsus are in a deformed position at birth, what is the condition of the bones themselves at this time? Are they ossified or cartilaginous? All the bones of the tarsus are in a cartilaginous state at birth; the centers of ossification of the astragalus and os-calsis only having appeared prior to this time, and that of the cuboid has just appeared. Accepting this, it would seem that the rational course to pursue, would be to correct the deformity at the earliest possible moment, so that the process of ossification may go on in the proper manner, with the bones of the foot held in correct position, and it is therefore important to decide when that earliest possible moment is. Many surgeons urge that no case should be operated upon until the child is old enough to walk, at one or one and a half years. If we wait until then, however, we must know what the condition of the bones of the feet will be at that time. With the exception of the

¹Delivered at the Jefferson Medical College Hospital.

cuneiform bones, all have shown centers of ossification before that time, and the ossification has progressed in the deformed position in which they are held by any contracted soft tissues. This dry specimen shows a double congenital equino varus in a still born fœtus, showing the malposition of all the tarsal bones. If these bones had ossified in the position in which they now are, this process would have gone on while they were in a deformed position, and as a result, at the age of one or one and a half years, if we should divide the tendons, the effect would be to simply rearrange deformed bones, the period having elapsed when it was possible to materially alter their shape. I contend that it is not rational to wait until the doubtful assistance of walking can be secured, because I believe that it is clearly proven that the earliest moment at which you correct the deformed foot, the more satisfactory will be the ultimate result. This ultimate result, however, depends upon the completeness of the first correction, and as well, upon the efficiency of the maintenance of the corrected position and the establishment of correlation of muscular forces. Relapses are the inevitable result of inefficiency on the part of those having the care or direction of the institution of remedial measures, and one of the prominent factors in these cases, I have found to be incomplete early correction.

The incompleteness of the early correction depended, in some instances, upon the late period at which correction was attempted, for I am abundantly satisfied that the best ultimate results I have had, have been in cases where complete correction was accomplished in the first month, and persistent efforts maintained. In many of these cases I have found an entire absence of those signs of muscle atrophy which are so conspicuous in, I believe I am right in saying, neglected cases. Now, shall we take a child at the age of one month, or less, and divide the tendons or other contracted soft tissues, or shall we confine our efforts entirely to manipulation and the employment restraining apparatus until a later period in the child's life? I know that there are those who advocate postponing operation until a later period, since in some cases manipulation alone will apparently elongate the contracted tendons. While it is improper to say that in all cases operative procedure should be resorted to, I firmly believe that the rule should be adopted, and, without exception, that complete correction should be accomplished at the earliest possible moment, and that this correction should be accomplished by the employment of every rational means, let it be operative, mechanical, manipulative, or gymnastic, but it must be complete to be effective.

I believe that the soft bones of the tarsus will alter their shapes as they are squeezed and compressed by force, and leave the shortened tendons as much contracted as they were before, because we know that tendons rarely, if ever, yield, except by tearing, while cartilaginous bones, not yet ossified, will yield to pressure. I believe that you will find, on making an examination of such a foot, no elongation of the tendons, but an altered external appearance of the foot, due to the softened condition of the bones, their being squeezed into an external appearance of correction. I believe, therefore, that at the earliest possible moment we should employ any method which will be necessary to correct the deformity, and which will prevent a return to the deformed condition. It is a very unusual thing to have the opportunity of making a post-mortem examination in the age of early infancy, in a condition of congenital club-foot, whether it has had proper, or improper, attempts at

partial or complete correction. I am inclined to believe that the malformation of the tarsal bones, seen in adult specimens, is often produced by the character of the manipulative force that was applied in early infancy, and that this would not have occurred had complete division of contracted soft tissues been made at the proper time.

I told you earlier in the course, that it was necessary, for convenience of study, to divide your cases of club-foot into three arbitrary divisions: the first variety including those in which the deformity is easily corrected, and the foot easily maintained in the correct position; the second variety is that in which the deformity can be corrected, but with difficulty, and immediately returns upon cessation of restraining force; and the third variety is that in which it is impossible to correct the deformity without recourse to surgical or powerful mechanical measures. This second child has one foot in a mild form of equinovarus. You will notice how easily the deformity can be corrected, and how easily it is maintained in the correct position. There are no contracted tendons in this case, and it has been impossible to find diminished activity in any muscle. The displacement of the tarsal bones is slight, especially of the astragalus, and this is easily effaced. Here it would be markedly improper to perform any surgical operation, for there is nothing to operate upon, no contracted soft tissues to cut.

The child I had before you first affords an illustration of the third variety in which the varus only could be overcome, the equinus not yielding, and I bring her before you again to emphasize another point. Shall we proceed, by force alone, to try to overcome the deformity? I have already explained the disadvantages of such a procedure, and will demonstrate the procedure that I consider essential. This morning I shall proceed to divide the tendo achilles, for the reason that that is one factor in the foot which maintains the deformity and prevents a correction. The patient comes from a distance, and the parents wish us to perform the operation and send the child home at once. I shall operate, however, and keep the child for a week, and then demand that the child be brought to us every two weeks, to enable us to keep an oversight of the case. This is an ordinary experience, for it is curiously deemed a trivial thing to correct a club-foot in a baby, and that simple division of the tendo achilles is the cure. In reality, the first correction, no matter by what means accomplished, is but means to an end. It is not only correcting the appearance of the deformity, but it is the correction of the mechanical defect so that the mechanical functions may be re-established.

The successful accomplishment of a cure of club-foot depends upon the efficiency of all three legs of a tripod, as it were, correction, maintenance of the correct position, and the establishment of correlation of muscular forces. And upon the tripod depends the efficiency of the treatment. I always insist that the patients, after the primary operation, shall come under my observation again at a period of not over one month, and that not more than a month shall elapse without a critical inspection, that the progress may be watched, to avoid neglect. If plaster of Paris is left on for any considerable length of time, an atrophy of the muscles of the leg must necessarily follow from disuse. The muscles in these congenital cases are usually perfectly normal at birth, but are induced to become atrophied by the means resorted to, to overcome the deformity. After taking the plaster of Paris off, we shall, in this case apply an apparatus permit-

ting full free motion of the ankle, but holding the foot in natural position. I shall also instruct the mother how to manipulate the foot, so as to prevent atrophy of the muscles, by encouraging muscular development. The production of muscular atrophy, which is such a serious obstacle to correction of club-foot after infancy, is a profoundly interesting subject, and I have but to refer you to Chinese ladies' feet for evidence of what is too often done with club feet. The long continued use of plaster of Paris, or mechanical apparatus of any kind that does not provide free ankle motion, will accomplish, just as successfully as the binder, a muscle atrophy. This muscle atrophy is, in turn, followed by atrophy of bones, not only in their diameter, but in their length as well. The natural tendency of a congenital club foot is towards atrophy from disuse, and, therefore, we are warranted in resorting to every means to avoid its occurrence.

If the plantar fascia in this case is so tight or contracted as to hold the foot in the incorrect position, we shall divide that, in addition to the achilles. The same thing holds true with reference to the flexors of the toes, if I find them unduly shortened. In brief, divide with a clean cut all soft tissues that restrain perfect correction, for unless you do this, you are sure to have an incomplete correction. In performing the operation, I put the foot first into a stretched position and then mark with my thumb nail a point sufficiently far from the tendon, say one-fourth of an inch, where I insert my knife. The point at which the division of the tendon-achilles is preferably made, is just above the attachment of the tendon to the os calcis. It is simply a matter of choice whether I cut from within, outward, or from without inward. You can now see the degree of separation of the two ends of the tendon. There is a space here of fully three quarters of an inch, which permits of elongation of the tendon to that extent. I apply collodion over the wound, to hermetically seal it, to prevent any contact with the atmosphere and septic germs, and therein lies the advantage of the subcutaneous method, namely the avoidance of the risk of suppuration. Notwithstanding the greatest care, however, there is always danger of infection taking place, no matter whether an open wound is made or the operation is done subcutaneously. The subcutaneous method has the least risk, in that only a minute puncture is made, with immediate closure of the wound. I always prefer the open method, for it is far more skilful and accurate, and avoids the necessity of cutting other tissues than the tendon to be divided.

The length of time required for a tendon to unite, is from one to two weeks, and at the end of three weeks the new formed structure is as strong as any other part of the tendon. Immediately after tenotomy the foot should be placed in an over-corrected position, so as to separate the divided ends of the tendon as much as may be required, depending upon muscle contraction to shorten it when necessary. The method of putting the foot into the deformed position, or in only a partially corrected position, should not be observed, because it will be necessary to stretch something later, or re-divide the tendon. To stretch this newly formed tissue is to weaken it by making it attenuated. I believe I have never known a tendon to fail to unite, although great separation of the divided end has, in some cases, taken place.

Now the question arises in the application of our maintenance apparatus of plaster of Paris, what is the object to be accomplished by its use? In the first place, to mould the foot into a proper position

and force the tarsal bones to occupy positions approaching the normal. The foot is now in an over-corrected position, being extended to less than a right angle and slightly everted, and the plaster of Paris will hold it in this position. In about two weeks the tendon will be strongly united, and enable us to begin our manipulation. Then will be the time to apply our steel maintenance apparatus, and it must be prescribed with a definite object. That object is, I am sure, now clear to you, and I will therefore indicate its essential features. A free ankle joint, obtained by having that part which is attached to the sole of the shoe, joined to the upright lateral leg bars, at a point above the tip of the malleolus. Just below the knee a semi circular band holds the upright bars in proper position, and is strapped and buckled in front. There must be nothing, whatever, to prevent free motion of the ankle in the natural hinge motion. It is often expedient to use elastic traction as a means of maintenance, and where this is sufficient and is desired, it can easily be accomplished with the use of elastic rubber bands, held in place by adhesive plaster. I never like to leave the plaster of Paris on longer than three weeks altogether, because its use is not beneficial, and its long continuance sure to be prejudicial. The child being under ether, I have no hesitancy in using as great force as may be necessary to overcorrect the foot.

There is danger to be avoided in the use of plaster of Paris, to which I must direct your attention, for it has occurred, or been threatened sufficiently often, to be a warning of the possibility of its occurrence. I refer to the possibility of constriction and strangulation, and the possible production of gangrene. There need be no fear of this if you carefully instruct the mother to frequently observe the condition of the circulation, by pressing upon the toes, and observing if the pink flush follows the white appearance produced by the finger. To make this possible you must, of course, leave the toes uncovered, and it should be a rule never to cover an entire extremity, because you want to know what is going on there. Should the mother notice any apparent interference with the circulation, she can call your attention to it, and you can, if necessary, remove the cast and reapply it. Plaster of Paris always contracts in setting, and a knowledge of this will prevent the application being made too tight.

The length of time required to accomplish a full and complete correction of a congenital club-foot is the same as that required to form the foot of a normal child. Not until a child is ten or twelve years old does a foot possess the normal mechanical conditions necessary for its full usefulness. All babies are flat-footed, many are naturally pigeon-toed, but all of these conditions pass off where there is a natural tendency to do so.

The same thing may be said of a child born with a club-foot, certainly in the milder forms, that until the age of ten or twelve years, the correction must be maintained mechanically, and efforts must constantly be made to develop the muscular system.

That which in the normal child prevents the foot from becoming deformed, although it may be placed temporarily in a deformed position, is the correlation of muscular forces, and this must and can be established in cases of club foot that are corrected sufficiently early. You must avoid the absurdity of resorting to gymnastic forms of treatment, and at the same time destroying its efficiency, by the use of mechanical restraining apparatus, that not only prevents the reproduction of the deformity, but at the same time re-

strains all motion. Thus I have seen rigid plaster of Paris in constant use in cases where it was removed every day for half an hour, and during that time, development methods employed. To accomplish a complete recovery, there must be an understanding of the mechanical functions to be recovered, and this is apparently absent in those who simply cut tendons and allow the case to relapse by neglect, or who consider braces to be curative.

Original Articles.

ORTHOPEDIC SURGERY.¹

By J. W. COKENOWER, A.M., M.D.

THE importance, as well as the neglect of this subject, no one can deny who pays the slightest attention to the numerous cases of malformation and other deformities which we observe in every-day life.

You can scarcely walk a block in the city, or visit a town, without seeing malformed or crippled sufferers whose countenances bear the impress of mortified pride at their unfortunate condition, frequently connected with expressions of intense pain produced by their abnormal physical position, hence the importance of this branch of mechanical and operative surgery, that gives to the human frame what vaccination has to the human features. It has not been but a few decades since specialists were few and sparsely settled, especially outside of the largest Eastern cities, and were looked upon by the regular profession as charlatans or irregulars, no matter what school they emanated from or what special branch of medical or surgical science they prosecuted. However, things have materially changed since then, and the progress of medical and surgical science has kept pace, if not excelled those of its sister sciences, and to-day the regular specialist is no longer considered a quack, but is recognized by the regular profession as prosecuting a legitimate and honorable profession. About the same may be said of the medical colleges of the United States. Not more than half a century ago it was a rare exception for a medical college to have taught in their school any special branch, but now it is the general rule.

Those subjects which were first given special attention were the organs of special sense, which, in due time, were quite general. But about this time Dr. Sayre and other eminent men in the profession gave some special attention to the study and practice of orthopedic surgery, which has kept place with other special branches, but perhaps not quite so general, yet the subject has attracted sufficient attention that many of the best medical colleges in the United States have adopted and given special chairs to this branch, and I am glad to say that the College of Physicians and Surgeons, Medical Department of Drake University in this city, is numbered among them.

Orthopedic surgery covers a large field of mechanical and surgical science, and the brief time allowed for this paper will only permit me to mention a few brief facts on some particular feature of the science, and the one which to me seems of most paramount importance is that of spinal diseases, producing curvature. The one known as Pott's disease or antero-posterior curvature, in which there is a destructive inflammation of the bones, accompanied with loss of

substance in the bodies of the vertebræ and intervertebral disks; the other deformity known as rotary lateral curvature, in which there is no disease of the bones, but the distortion is dependent entirely upon irregular muscular contraction.

The one is distortion, the result of destructive inflammation of the bones and intervertebral substance, the other is distortion, dependent upon irregular abnormal muscular contraction. Sometimes the distortion produced by this action of the muscles very closely approaches in degree and appearance that present when the bones and cartilages are diseased, and is then occasionally mistaken for Pott's disease. The disease producing curvature of the spine may occur at any period of life, but is much more frequent in childhood, and especially in children who are reckless and careless and expose themselves to all sorts of accidents.

The antero posterior curvature occurs more frequently among boys, because they are more exposed to accidents, while the rotary lateral curvature is seen more frequently in girls. My experience with antero-posterior curvature is that it is most always produced by some injury to the bone or cartilage, and is of traumatic origin. Yet such orthopedic gentlemen as Sayre, Dieffenbach, Little, Price, Wright, Bonnet, Bradford, Lovett, and Richardson, advocate the strumous origin, and claim that the disease depends upon a tuberculous diathesis and not occurring unless constitutional dyscrasia is present, but in my opinion the disease is most frequently caused from some injury rather than being prompted entirely by any constitutional ailment. The very fact that thousands of people are walking about distorted in many cases to a great degree, and yet remain in this condition and enjoy an average degree of health until they have reached a good old age, is pretty good evidence that the disease, which has produced the deformity, is not necessarily tubercular in character or depending upon any constitutional diathesis. The spinal disease symptoms, prior to deformity, are often very obscure, and diagnostic mistakes are sometimes made by careful and observing practitioners, and the writer's experience has been no exception to the rule, and I think Dr. Sayre stated the exact facts in the case, which are verified in my experience when he said: "The symptoms of this disease vary according to its location in the spinal column." When it has advanced far enough to produce a deformity there is usually no difficulty in diagnosis, but the disease has existed long before the deformity is discovered, and the important point is to diagnosticate the disease before the deformity occurs. The symptoms, at the beginning, are sometimes very obscure, but the nerves that make their exit from the spinal canal at points opposite to the seat of the disease become more or less involved, and will manifest such disturbance by symptoms developed at their distal extremities. For instance, if the disease is situated in the cervical region, long before any distortion occurs the patient will complain of difficulty of swallowing; may have a choking sensation as if there was a string around the neck; difficulty about the larynx producing an irritable and continued cough, with pain in thorax. Such symptoms may be the only ones present that will attract attention, but they are sufficient to arouse our suspicion, and if you cannot, by means of the laryngoscope and physical examination of the chest, detect any disease of the larynx or lungs, or any of the thoracic organs sufficient to account for the symptoms present, you should at once make a thorough examination of the spine.

¹Read before the Iowa State Medical Society at its forty-first annual meeting, held in Des Moines, Iowa, May 18-20, 1892.

When the disease is in the dorsal region the patient very often complains of pain in the lower part of the chest and upper part of the abdomen, also a constricting sensation, as if a band were around the body; complains more or less of indigestion and flatulence, and may have been treated for dyspepsia. He may also complain of pain in the chest, pain about the heart, and, perhaps, has been treated for rheumatism or angina pectoris. When the disease is still lower down in the spinal column, the leading symptoms may be those referable to the bladder or rectum. The chief symptom in the case may be the frequent desire to pass the urine. Then the patient may also suffer from radiating pains down the thighs.

When such symptoms are present and they cannot be explained by the presence of some well organized disease, always go back to the point where the nerves distributed to these regions make their exit from the spinal canal, and carefully examine the bony structures which surround them. Early in the progress of the disease, reflex contractions are excited among the muscles, which result in a change in the appearance and action of the patient, that is worthy of especial attention.

When the child walks you will notice the lower extremities are carefully guarded to prevent any concussion of the bodies of the vertebrae. The chin will be made to project and shoulders elevated, and the child cannot stand erect and receive any concussion without pain to the spine, and the muscles of the back are held rigid to prevent any movement of the bodies of the vertebrae. The child cannot stoop, and when asked to pick up an object from the floor will begin by bending the hips and then the knees, and then reaches the object by squatting. These patients never bend the spine forward or backward, and it is an easy matter to notice that every movement is guarded in behalf of the spine. When walking about the room the patient will reach with his hands from one article of furniture to another, and when this cannot be done, he will put his hands upon his thighs in order to transmit the weight of the head and shoulders through the legs to the ground, thereby giving them support without bearing upon the diseased vertebrae. These are among the many things observed, and then by stripping the patient and making a close examination, I think there should be no trouble in diagnosing a case of spinal disease in ample time to commence treatment, such as will prevent any curvature, or at least modify it.

The treatment varies according to the supposed seat of trouble, but in most cases some constitutional treatment is needed, but the most efficient means of controlling the disease is by mechanical appliances, such as plaster of Paris or sole leather jackets, suspension racks or spinal braces, with spring crutches. I have used them all with very satisfactory results, and now in conclusion will report a case treated with the spring crutch spinal brace.

The principle of the spring crutch spinal brace is such that it is equally well adapted in the treatment of antero-posterior or rotary lateral curvature, no matter whether the curvature is prompted by synovitis, or destructive inflammation, or irregular, abnormal muscular contraction of the muscles. In treating synovitis of the joints in the extremities, our main object is to maintain quietude, and extension and counter extension, so it is in the treatment of spinal diseases. The belt is so made that it rests upon the hips as snugly as you could place the palm of your hand, and the spring steel in the belt does not extend beyond the front of the hip, hence the

belt does not interfere with the bowels. An adjustable spring crutch is put under each arm and fastened to the belt at the hip, and by the use of the crutches the entire weight of the head and shoulders can be transferred from the spine to the hips; one, two or three steel bars, as the case needs, extend up the back, to which a short cross-bar is attached with scapula pads.

This in brief is the skeleton of the brace. Elastic or non-elastic material can be so fastened to the different parts of the brace, that any degree of pressure, extension or counter-extension can be made in any direction, or upon any particular part needed.

The case upon which I used the brace just described was an eight-year-old boy, whose parents live in Des Moines. I was called to see the case in May, 1890; found the patient suffering from antero-posterior dorsal curvature, with all the diagnostic symptoms heretofore described to the dorsal portion of the spine, namely, pain in chest and back, difficulty in breathing, unable to sit or stand, not because of the want of strength, but because any movement produced intense pain to the bodies of the vertebrae. I put the patient upon a mild tonic and controlled the hyperaesthesia of the nerves, induced by the long-continued pain, made extension and counter extension to the spine, while on the bed, by means of measured weights, pulleys and bands. In four weeks the boy was able to sit up, when I put on the spring crutch spinal brace, making such gradual pressure as the case demanded. The patient continued to improve, and in three months was walking and running around like other boys. He wears the brace yet, has but little curvature, no pain, hyperaesthesia of the nerves is a thing of the past, and enjoys generally good health.

I used no local medical treatment on the spine, except oleum succinii and ol. camphorata, one part of the former to three of the latter. I have treated a number of such cases over the State on the same plan, and with the skilful assistance of the different attending family physicians, have had equally as good success.

POINTS IN OFFICE PRACTICE IN THE TREATMENT OF THE DISEASES OF WOMEN.¹

By CHARLES P. NOBLE, M.D.,

Surgeon in-Charge, Kensington Hospital for Women.

THE limitations of office practice, in the treatment of the diseases of women, what should be attempted and what should be avoided, forms a subject of very practical importance to every one engaged in this department of therapeutics.

I wish first to bring to your attention certain procedures which I believe should be avoided.

Under the old *régime*, before the days of anaesthetics, and before the dawn of the antiseptic era, it was a somewhat necessary custom for the surgeon to minimize the gravity of operations, and to conceal the paraphernalia, in order to avoid the mental effect on the patient which otherwise would be produced. This, however, is no longer the case. In those days, also, the nature of the causes of the inflammatory processes which may follow operations were not understood, hence the necessity for careful preparation of the field of operation was not appreciated. As a result of these conditions, disastrous consequences, due usually to sepsis, not infrequently followed ap-

¹Read before the Philadelphia County Medical Society, May 11, 189

parently trifling operations. These facts cannot be borne in mind too strictly, nor can apparently trifling operations, done in the office without attention to every requirement of antiseptic surgery, be too carefully avoided. To twist off a polyp, to dilate the cervix, or to curette the uterus, appears like a trifling operation, but if done without careful disinfection of the field of operation, and of the hands and instruments of the surgeon, serious inflammation of the pelvic tissues, and even death, may result. It is not an uncommon practice for men to dilate the cervix "just a little," in the office, and to repeat the process from week to week, for the relief of dysmenorrhœa. This is called the gradual method of dilating the cervix. Some years ago, I saw this done many times, and the consequences were what should have been foreseen—in a definite number of cases—infection, with permanent crippling of the uterine appendages, resulted. In the same way, I have seen the dull curette used on the ground that its use is a trifling matter, and that it can do no harm. I feel certain that such practice is at least in part responsible for the present opposition to the use of the dilator and curette by a few men in the profession. Whatever is worth doing at all is worth doing well. Thorough work and clean work is possible only when a patient is passive from the influence of an anæsthetic. Hence, I believe that all attempts at minor surgical operations on the pelvic organs in the office should be condemned.

The routine employment of applications to the endometrium for the cure of endometritis is another method of treatment which should be avoided. The experience of Emmet, Thomas, and Goodell (not to mention others), has demonstrated that this method of treatment is unsatisfactory, and that under certain conditions it is dangerous. When the uterine appendages are inflamed, and especially when the tubes contain pus, all manipulations of the uterus are liable to induce peritonitis, and hence are contra-indicated. These facts have been demonstrated so conclusively by the experience of the past twenty years, that the same old blunders should not be made in the future. In my own hands, application to the entire endometrium are made only after careful dilatation and curetting of the uterus, done under anæsthesia and with full antiseptics, and in the rare cases in which the uterine canal is very patulous. My own experience is similar to that of Goodell, Emmet, and others—that the less one uses intra-uterine applications the more he believes that they are harmful rather than useful. I would not go as far as Emmet, and condemn intra-uterine applications absolutely, but I believe that their field of usefulness is a very restricted one.

The employment of pessaries does not cause as much evil as formerly, because the limitations of the use of the pessary are better understood. The teachings of the school of Hodge concerning the nature of the displacements of the uterus and their treatment by means of the pessary, made a deep impression upon American medicine, and it is only now that much that was erroneous is being eliminated from current beliefs. Since Hodge's day, practically all that we know concerning injuries of the pelvic floor and pelvic inflammation has been discovered; and theories concerning the sustaining forces of the uterus, the action of the intra-abdominal pressure, and the mode of action of the pessary, have been profoundly altered, especially through the labors of Schultz.

The mistake should be avoided of regarding a retro- or other "displacement of the uterus with adhesions" (according to the old nomenclature) as a

disease of the uterus, and especially the greater mistake of treating such a case with a pessary. The disease in such cases is to be sought in the appendages.

With the rarest exceptions, the use of pessaries should be limited to cases of retro-displacement or descent of the uterus, in which there has been no peritonitis and no laceration of the pelvic floor. If in such cases the displacement is first corrected and then a properly fitting Smith-Hodge, Emmet, or Thomas pessary is inserted, no harm will result, and a cure will often be effected if the patient is carefully watched and the pessary kept clean.

Evil results, which should be avoided, follow the use of the pessary, in proper cases, when it is introduced without the previous reduction of the displacement, and especially when the pessary is inserted against inflamed and tender ovaries and Fallopian tubes.

When the theory is abandoned, that the pessary is a lever which holds up and tilts forward the uterus, and instead the theory is adopted that the pessary acts by pushing the vault of the vagina toward the sacrum, and hence pulling the cervix backward, and that the fundus is kept forward by intra-abdominal pressure, this useful instrument practically will cease to do harm, because it will no longer be used in cases of "fixed uteri" and in cases of unreduced displacements.

The routine use of the sound as an instrument of diagnosis is another practice which should be avoided, because of the danger of carrying infection into the uterine cavity, and the risk of unwittingly inducing abortion, and because a diagnosis can be made more accurately by the bimanual method without the slightest risk to the patient.

I shall now briefly present certain views concerning the positive side of office practice.

Unquestionably in gynecology, as in the whole field of medicine, successful treatment rests on accurate diagnosis, hence the necessity of carefully studying each case, not only as to the condition of the pelvic organs, but as to the state of the general health. The observing gynecologist early realizes the interdependency of diseases of the sexual and of the other systems of the body. Especially is this true of functional conditions, including the vascular supply of the pelvis. Many women complain of symptoms referable to the sexual organs which are due to pelvic congestion, in turn due to a feebly acting heart, or to a sluggish portal circulation, or to lack of use of the muscles of the body. Just as these conditions predispose to hemorrhoids, or increase the size of hemorrhoids already present, so do they predispose to pelvic hyperæsthesia, and greatly increase the symptoms of any morbid condition present in the pelvis.

Likewise the influence of morbid states of the nervous system, especially the conditions known as hysteria and neurasthenia, upon the symptom complex of pelvic disease is most marked. And the same is true of malnutrition and anæmia.

Whether a given pain is due to gross disease in the pelvis, or is due to hyperæsthesia of the pelvic nerves induced by pelvic congestion, or whether it is a manifestation of hysteria or of neurasthenia, or is a neuralgia due to anæmia and malnutrition is a problem always intricate, and at times difficult of solution.

These considerations should never be lost sight of in studying the problems of pelvic disease; and I feel certain that a full appreciation of them is of the greatest importance in pointing the way to successful treatment.

Successful management of pelvic disease means very much more than the use of local treatment. Broadly speaking, I believe that fully as much, if not more, can be accomplished for women suffering with pelvic disease by hygienic management and general medication as by local treatment. Of course, this statement does not include cases requiring operation. Frequently what is most required is to regulate the bowels, to correct digestive disturbances, to give iron and arsenic for anæmia, to advise rest and recreation for the overworked, and to infuse hope into the despondent and hypochondriacal.

In my own work I feel that I have no more important ends to accomplish than to combat malnutrition, anæmia, and constipation, and to induce overburdened women to live more in the open air, and to secure more hours for relaxation and amusements.

In the actual diagnosis of pelvic disease, by physical examination of the parts, touch, and the bimanual examination are the safest guides. No instrument will reveal so much as the educated sentient fingers. Indeed, the bimanual examination is of more value than all other methods of diagnosis combined. In no other way can the entire pelvis be explored, and the condition of the uterus and its appendages be known. Vision and instrumental aids to diagnosis are of value, but their usefulness is restricted to cases of vulvar, vaginal, and cervical disease.

On making the bimanual examination I have found it most useful to employ two fingers in the vagina instead of one. At least half an inch is gained in this way. A distinct advantage is gained also by using the fingers of the left hand for exploring the left side of the pelvis, and of the right hand for the right side of the pelvis.

If the confidence of the patient is gained, and her fear of being hurt is removed, and if she is instructed to breathe regularly during the examination, in almost every case the entire pelvis can be explored. At times when the vagino-abdominal method of examination is unsatisfactory, the recto-abdominal examination clears up the diagnosis.

The speculum is of value as an aid to diagnosis only in cases of vaginal and cervical disease. Its chief importance is as a cannula to facilitate the making of applications to the cervix and vagina. Hence one should be selected which can be used without causing pain. This indication is met by the Sims' speculum, but its use involves the necessity of an assistant, and in addition the expenditure of unnecessary time, hence it should be used only in special cases when it is desirable to study vaginal or cervical lesions, or when there is great pelvic tenderness, or when there is a cancer of the cervix, which might be abraded by the bivalve speculum with the induction of hemorrhage. I have found the virgin size of the Nott trivalve speculum the most satisfactory for general use.

In making applications to the cervix and to the vault of the vagina, I have found a whalebone applicator, made for me by Lentz & Sons, to be of such convenience that I shall show it here. It is a tapering rod of whalebone ten inches in length, flattened at the smaller end. A layer of cotton wrapped upon the applicator is sufficiently secure for use in making applications to the vagina and cervix, and yet can be removed easily and quickly by grasping it with forceps. In this way it is possible to avoid staining the fingers, and the loss of time necessary in removing the medicated cotton from the ordinary aluminum applicator. Another advantage is that its size prevents its introduction into the undilated uterine cavity.

In conclusion, I will urge again that it is wise in office practice to avoid all operative procedures and all methods of treatment which are painful, because of the dangers of inducing inflammation and septicaemia. The office treatment of the diseases of women should be limited to prescribing the hygienic, dietetic, and medicinal remedies appropriate to each case, and to the employment of vaginal and cervical applications, the re-position of displaced organs, the careful use of massage, and the fitting of pessaries.

DISCUSSION.

DR. BARTON COOKE FIRST: I have very little to add to this comprehensive paper. I quite agree with the writer that the treatment of gynecological cases in the office should be restricted as much as possible. I early learned this by an experience with one or two distressing cases in which I was obliged to remain in the office long after office hours to watch them.

There are one or two little points which might be enlarged upon. One is the rectal examination. At the first examination of a patient I resort to it in every case. I have found in quite a number of instances that I have been able to detect an abnormal condition of the ovary which was wholly inappreciable through the vagina. The rectal examination, if sometimes of no use, does no harm and entails no risk.

There is another point that I think might have been touched upon. There is a danger in this kind of practice which should not be lost sight of, and the true nature of which should be exploited wherever possible. I refer to the disagreeable consequences arising from the examination of erotic females and of designing women. This is not a pleasant subject to dwell upon, but it is a constant danger, and harm of a serious kind may come to the practitioner if it is ignored. I think, therefore, that the possibility of erotic excitement, and the possibility of blackmail in office gynecology, should be referred to, in order to warn the younger men, and so far as we can to give the laity an idea of the true nature of the majority of these cases. There is a well-known case in this city of an unfortunate dentist who was sentenced to jail on this account, and yet I have been told that he undoubtedly was innocent. The same experience may occur to any one.

DR. WILLIAM H. PARISH: The paper which has been presented is a very safe and sound one. The main point submitted in it is that we do harm to our patients in our office work. I am confident that too much is attempted in the office, and can recall a number of instances in which patients were made worse by the treatment there instituted. It is a wise procedure on the part of Dr. Noble to bring this subject before us, in order that the experience here related may be of service to others. The dangers of sepsis, now fully appreciated, were at one time not recognized by the surgeon and gynecologist. At that time it was quite the universal practice to introduce a sound into the uterus of every woman who presented herself for examination, unless there was strong reason to believe that pregnancy existed. I do not doubt that much trouble is still caused by the sound or other instrument being carried into the uterus—measures to avoid sepsis not being observed.

I practically agree with Dr. Noble in all the detailed statements made in his paper. I have long given up the practice of gradual dilatation in the office. In some cases it is injurious, and in many it is of no service. If the operation is needed, it should be done at the patient's home, or in a hospital, with

proper precautions. The same remarks are true as to the use of the curette.

With reference to the use of intra uterine applications in the treatment of endometritis, although early brought up to the belief that these were essential in almost every case of endometrial inflammation, I now think that they should be reserved for cases that are exceedingly obstinate, or where there is septic material in the uterus. These applications should always be made at the house of the patient or in the hospital.

The use of pessaries has largely diminished, but one who sees these cases will be surprised to find how many pessaries are used in cases where there is no indication for them, and where they do no good, and even do great harm. They are used where there are contra-indications—such as adherent uterus or adherent ovary. I have not much faith in pessaries, limiting their use to cases of simple falling of the uterus, with or without retro-displacement.

So far as erotic cases are concerned, I think that they are exceptional; but it is well that their presence should be recognized. In a number of years of practice, I have not come across a case that gave me any concern. I know of two or three physicians who would not examine a woman except in the presence of a third person, and in one case except when another member of the family is present.

DR. WILLIAM E. ASHTON: I agree with Dr. Noble that a great deal of harm has been done and will be done through office practice. If we are to do anything in the office in the way of gynecological work, we should approach it with the same aseptic precautions as though we were opening the abdominal cavity. The experience of the past and the present certainly show that tinkering in a septic way with the uterine cavity is responsible for many cases of tubal and ovarian disease.

I believe that pessaries have a very limited use. It matters not whether the pessary acts by pressure upon the posterior wall of the uterus or by elongating the posterior wall of the vagina and bringing the cervix backward, as in either case damage is done to the utero-sacral ligaments, which are the chief supports of the uterus. These ligaments are elongated, and as a result we have an increase of the trouble when the pessary is removed. The use of the pessary should be limited to those cases where, for a short period of time, we wish to shore up the uterus, and to cases where the uterus is but slightly prolapsed and retroflexed. The pessary is especially useful in pregnancy, where there is retro-displacement and prolapse. Its use in these cases for the first four months prevents the possibility of incarceration.

Dr. Noble has brought out in a forcible way the importance of constitutional treatment in the diseases of women. The time has passed when we expect much from local treatment. Unless we recognize the necessity for constitutional treatment we shall get bad results.

DR. JOSEPH HOFFMAN: The remarks of Dr. Noble in regard to uterine massage and those of Dr. Hirst can well be put alongside of one another in a critical way. Dr. Noble speaks of uterine massage being allowable in the office. Dr. Hirst says that in certain erotic females there is danger in office treatment. If there is anything that is apt to bring on these dangers, it is the abominable practice of uterine massage. I think that it would be no more reprehensible to have a male attendant in the women's division of the Turkish bath, as for a man to practice uterine massage. I think that it is disreputable, foul, and wrong. I say that, from the moral side of

the question, any trouble in the uterus that needs to be broken up by massage is a trouble that is so far gone that it is not safe to break it up. It is not safe to break up adhesions in the pelvis by this means. When we have our fingers on these adhesions we know how difficult it is to break them, and they may even require the use of the scissors. Uterine massage is out of place both morally and physically.

A word in reference to pessaries. In this reaction against the use of pessaries we are perhaps going too far, and to forget that they are sometimes of use. I can put my fingers on three cases of acute retroversion occurring in the past few weeks, where great benefit has followed the use of the pessary. One patient was bleeding twice a month, another was incapacitated from work, and the third was almost unable to work. There is as much care needed in the fitting of a pessary as in the fitting of a stocking or a shoe, and the pessary should be adjusted for each particular case.

I disagree with Dr. Ashton in regard to the use of the pessary in pregnancy. If I wanted the woman to miscarry, I should use a pessary, for I believe that the irritation of the pessary would induce miscarriage. Where the uterus is retroflexed, the best plan is to restore it mechanically, and then allow the patient to remain in bed as long as necessary.

DR. G. BETTON MASSEY: From a philosophical point of view, the sense of the paper is that gynecologists are unnecessary. If these diseases of women are to be cured by hygienic and constitutional measures, why cannot the general practitioner do all that is necessary? In my experience, the cases that come to me outside of dispensary practice have had that tried. We are to be congratulated that the time has at last come in minor surgical gynecology when the gynecologists themselves are willing to acknowledge to bad results. If they would but sit down quietly and apply the same serious judgment to their major gynecology, they would reach somewhat similar results. For the life of me I cannot understand why it is unsafe to pass an aseptic instrument into the cavity of the uterus, and yet it is safe to perform abdominal section in order to make a diagnosis. It is the abdominal sectionists who are willing to acknowledge to the noxiousness of local treatment. I think that one of the explanations of this anomaly is attributable to the position taken by Philadelphia gynecic surgeons, wherein they differ from gynecic surgeons in other cities, in failing to appreciate the value of electrical treatment in the office. If they used electricity in these cases they would find that the patients are better able to go home than to come to the office, and their exceedingly agnostic position would be modified materially.

DR. NOBLE: I consider the rectal examination as a most valuable expedient. In the paper, which is a running commentary on many points, it was not possible to go much into detail. I stated, however, that if the bimanual examination by the vagina was not satisfactory, the rectal examination should be resorted to.

As to the reason that it is not wise to put a sound into the uterus, pathologists have taught us that the vagina constantly contains germs, and that the cervix as high as the internal os also contains germs, but that for some reason the internal os offers a barrier to the further ingress of germs, so that the endometrium is protected against invasion. If we pass an aseptic instrument through the cervical canal, it may carry germs into the uterus and set up inflammatory trouble. In my own hands the sound is used principally

to reposit the uterus in a definite class of cases. Occasionally the uterus is so flexible that the ordinary bimanual method of Schultz will not answer. If the patient is put in Sim's position, the uterus usually can be replaced, but occasionally the sound will be required. I always clean the cervix as well as possible, and see that there is no disease of the appendages.

My reference to uterine massage in the paper consisted of this phrase—"the careful use of massage." I think that the field of usefulness of massage is extremely limited. So-called cases of displacement of the uterus with adhesions are cases of adherent appendages which require removal, particularly if the tubes form retention cysts. Occasionally we find cases in which there has been peritonitis and the appendages are adherent, but from the symptoms and the physical examination there is no reason to believe that the tubes are occluded and distended. The adhesions may be light, and there may be retro-displacement of the uterus. In a few such cases I have, by careful packing of the vagina for a long time, been able to overcome the retro-displacement and give the patient much relief. I am very suspicious of active massage, and certainly would not put myself in the position of recommending it in inflammatory conditions of the uterine appendages. It is only to be used in these rare cases. I have nothing to say on the immorality of the measure.

I agree with Dr. Ashton that if we have a retro-flexed pregnant uterus, and if by manipulation, it is possible to reduce it, that it is a good practice to introduce a well-fitting pessary. At the same time I think that is well to keep the patient quiet for a reasonable length of time. I have not infrequently used a pessary in these cases, and have not had abortion follow.

My paper was not a plea for the existence of gynecologists, but it was upon some points in office practice; therefore I do not feel called upon to reply to Dr. Massey's criticism. Dr. Massey remarked that if gynecologists would use electricity more patients would go home in a better condition than when they came to the office. But even he has detailed a case to-night in which the patient was so sick after leaving the office that she required the services of a physician, and was unable to return to the office, but had to go to bed to have the treatment applied.

ABDOMINAL SURGERY IN THE WOMAN'S HOSPITAL OF PHILADELPHIA.¹

By ANNA M. FULLERTON, M.D.,
PHYSICIAN-IN-CHARGE.

THERE has probably been no age of the world in which the causes concerned in the physical deterioration of the race, and the measures to be employed in averting such tendency, have excited so general an interest as in the present day. The Spartan method of nipping disease and deformity in the bud by destroying sickly infants has given way before the spirit of inquiry, which has stimulated scientific research, so that man now seeks to know the reason why for all the varied phenomena of existence.

An excessive development of the nervous system, induced by the demands of civilized life, has practically made of man a new being. His physical nature has been taxed by the demands of his intellectual nature, and we see in his weakened powers of endu-

rance that the civilized man as an *animal* is inferior to the anthropoid ape from which he is said to have sprung. Whether this disastrous result would have ensued had the wise provisions of Divine law continued to guide man in his progress toward knowledge, is an interesting question for the moralist. Certain it is, that in contemplating the physical wrecks with whom we, as physicians, have to deal, we are led to see that physical law and moral law are as inseparable as body and spirit, and the question naturally springs to our lips, in viewing disease: "Who hath sinned—this man or his parents—that he should be born blind?"

Women have necessarily shared in this physical deterioration, for it would be as impossible to arrest changes in one-half of the human race—subjected to like conditions with the other half—as to prevent one-half of the seeds in a field of wheat from springing up in response to the wooing influences of the sunlight and fresh air in which the whole field is bathed.

The present terrible prevalence of pelvic disease claims an important share of the consideration of our profession; for, from the standpoint of its effect upon racial change, the preservation of the health of women is a question of vital importance. Some one has said: "Children have two inalienable rights—the right to be well-born and the right to be well-reared." Upon the medical profession, as guardians of the physical well-being of man, devolves the grave responsibility of formulating the laws which shall secure these rights to the coming race. The prevention of disease must therefore be to us a question of far greater importance, relatively, than that of the cure of disease, as the prevention of crime outranks the consideration of methods for managing the criminal. In fact, the cure of disease is often quite as hopeless an undertaking as the reform of the criminal. It is useless to try to purify a stream most of the tributaries of which are cesspools.

It is only within comparatively recent years that a proper conception has been obtained of the more serious forms of pelvic maladies. The researches of modern pathology have demonstrated the conditions of organic change which may be thus produced, and to them we owe our appreciation of the fact that for such conditions the ordinary therapeutic measures are not available. It is in these cases that surgery, although often a forlorn hope is the only hope for the amelioration of the patient's suffering or the preservation of her life. The recognition of this fact has given abdominal surgery a marked impetus in its application to pelvic disease; and in all progressive institutions for the treatment of diseases of women, the aid thus afforded to thorough work has been abundantly established by the increasingly satisfactory results attained in gynecological practice.

It must not be thought, however, that abdominal surgery can be vaunted as a cure-all for pelvic disease. In a contribution to the *Annals of Gynecology and Pediatrics* for November, 1890, I have presented the conclusions suggested to my own mind in this connection. These are as follows:

1. That temporary conditions of acute pelvic inflammation due to non-septic causes are quick, as a rule, to respond to the ordinary palliative measures for allaying inflammation, such as the use of salines, rest in bed, applications of heat and cold, etc. That, if properly treated, they are apt to get well without leaving any permanent lesion behind them.

2. That when the history of a case and careful and intelligent examination prove a pelvic malady to be of long standing and a source of persistent ill-health,

¹Read at the Philadelphia County Medical Society, May 11, 1892.

it is poor practice to waste time in prolonged palliative treatment, when an exploratory incision can clear up the obscurity, and prepare the way, at least, for intelligent management.

3. That in acute cases, where masses are found in the pelvis, and the accompanying history and symptoms point to the probability of the existence of conditions which delay may render dangerous, there should be early and prompt resort to operation.

4. That for the attainment of satisfactory results from such operations, the skilled workman is required; therefore their performance should be delegated to the few, whom natural gifts or training and surroundings enable to attain a high degree of excellence in abdominal and pelvic surgery.

5. That all gynecologists should not consider it their duty to attempt this work, which constitutes a distinct and comprehensive branch of surgical science.

6. That all physicians should be more thoroughly trained to appreciate the existence of conditions demanding the care of a specialist, and should be more disinterested in referring such early to the proper sources for help.

The application of these principles in practice must, however, be subject to the wishes of the patient; and it is our custom in the hospital, whenever an abdominal operation seems indicated, to give a careful explanation of the nature and probable results of the operation to both the patient and her friends, after which they must decide for themselves as to whether we shall proceed with it or not. We cannot promise entire immunity from danger, although we endeavor not to arouse needless alarm; we cannot promise that immediate relief will invariably follow operative procedure; nor can we assure the patient, especially in the cases where social relationships are responsible for the disease that exists, and where these are to remain unchanged, that she will be restored to good health for all time in consequence of the operation. The right to choose suffering as the daily portion of her life, or to live in imminent danger of death, cannot be denied to a patient, however the pathos and folly of the situation may appeal to us.

In preparing a tabulated list of the abdominal operations done in the Woman's Hospital during my connection with it, since the fall of 1886, and which I have appended to this report, I have omitted the cases which have been referred to the clinic in general surgery, and confined myself to the work of the gynecological staff. Some of the former operations, because of their peculiar interest, have doubtless already been reported to the Society by Dr. John B. Roberts, in whose service they came. Of the 179 operations performed by the gynecological staff, 86 were done by Dr. Anna E. Broomall, 24 by Dr. Hannah T. Croasdale, and 69 by myself.

An analysis of these cases is as follows:

Cæsarean section for contracted pelvis	1
Ovarian cysts	27
Parovarian cysts	5
Dermoid cysts	6
Ovarian hematomata	5
Sarcoma of ovary	1
Cystic degeneration of ovaries	5
Sclerosis of ovaries	1
Tubercular tubes and ovaries	3
Congenital arrest in development of pelvic organs, with recurring menstrual molimen and amenorrhœa	4
Hydrosalpinx	6
Hematosalpinx	3
Pyosalpinx	15
Extra-uterine pregnancies	7

Chronic ovaritis and salpingitis, causing recurrent attacks of peritonitis	37
Hematocele	1
Pelvic abscess	1
Uterine displacement with adhesions	11
Uterine fibromata	28
Inversion of the uterus	1
Ventral hernia	3
Distention of colon, with adhesions simulating ovarian cyst	1
Omental cyst with ascites	1
Carcinoma of abdomen and pelvic viscera with ascites	2
Carcinoma of pancreas	1
Intestinal obstruction	1
Septic peritonitis	1
Hypertrophy of spleen	1

Total 179

Fifty-three of these operations were performed upon unmarried women for the following causes:

Pyosalpinx	2
Tubercular salpingitis and ovaritis	3
Ovarian cystomata	6
Dermoid cysts	3
Ovarian hematomata	3
Cystic degeneration of ovaries with prolapsus	3
Chronic salpingitis and ovaritis with recurrent peritonitis	14
Congenital arrest of development in pelvic organs, Hematocele	4
Uterine displacement with adhesions	1
Uterine fibromata	3
Ventral hernia	7
Hypertrophied spleen	2
Peritonitis	1

Total 53

In a large number of the remaining operations, which were done upon married women, there was a history of trauma at child-birth, or septic infection, puerperal or specific.

In the 28 cases of uterine fibroids, hysterectomy was done in 11 cases, hysterotomy in 3, and removal of the appendages in 9. In 5 cases there was simple exploration, the complications found being such as to preclude, in the operator's opinion, the advisability of further procedure. Among these cases of fibromata were 2 that were rather unique. In one—a subperitoneal outgrowth from the posterior wall of the uterus—there had been complete ossification of the tumor, so that when peeled out from its capsule it had much the appearance of an ivory ball. In the other case, which was also an outgrowth from the posterior surface of the uterus at the junction of body and neck, the tumor had grown to the size of a child's head, and had evidently so twisted the isthmus of the atrophied uterus (the woman having long passed the menopause) that a separation had gradually been produced of the body from the neck. The extremely movable tumor which thus resulted changed its position with every motion made by the patient, and caused the most curious and variable symptoms of discomfort and pain. The entire vascular supply of the tumor came from its extensive omental adhesions.

Of the 27 ovarian tumors, 15 were unilocular, and the remainder multilocular. In five of these there was extensive suppuration. In one case the ovarian cyst complicated a pregnancy and threatened to induce an abortion. The tumor was removed without disturbing the pregnancy, and the patient was delivered in the maternity wards at full term—four months later.

Six of the cases of ectopic gestation were tubal pregnancies. In four of these rupture had occurred previous to the patients' admission to the hospital;

the remaining case was one of utero-abdominal pregnancy, which I reported in detail in the *Annals of Gynecology and Pædiatry* for November, 1891. There had been a history of missed labor five months previous to the patient's admission to the hospital. A communication was found to exist between the uterine cavity and the gestation sac, which was in a condition of gangrene. This case and one of those of ruptured tubal pregnancy, both of which were septic on admission, succumbed within a few days after operation.

There were 19 deaths among the 179 operations—a little over 10 per cent.

The causes of death were as follows :

Acute sepsis superimposed upon a chronic condition of sepsis, which existed at time of operation in 10 cases : 2 of these were suppurating myo-fibromata ; in 5 there were suppurating ovarian cysts ; one was a case of pelvic hœmatocele, and 2 were the cases of extra uterine gestation before mentioned.

In 1 case death occurred from heart-clot, a week after operation, in a patient who had a weak heart from excessive loss of blood for many years. In another, where there had been repeated attacks of peritonitis, due to disease of the appendages, and where numerous adhesions existed, death occurred from secondary hemorrhage.

In 5 others, where adhesions had been very numerous, peritonitis occurred, to which the patients suc-

cumbed. In two of these cases a secondary operation was done, but without avail.

In the remaining 2 death occurred from the progress of the malignant disease from which the patients suffered.

It will be observed that every one of the cases lost was a neglected case—in which the peritoneum had either lost its absorptive power, due to frequent attacks of inflammation, or in which the general condition of the patient was so debilitated as to render it difficult for her to rally. How urgent a plea is this for early diagnosis and early operation !

The methods of operation employed by us are very similar to those of other operators of the present day, who aim at thorough asepsis. The ultimate results of operative procedure have been, in the main, satisfactory. As I have intimated before, such results could only be entirely what was desired in those cases where continued causes for a persistence of ill health were not found in the patient's social relationships or surroundings. There is much of disease that cannot be cured. Society must be wiser before the world can be better. Physical and mental pollution must continue to blight to the third and fourth generation, until the springs which feed the streams of life are purer. "To the trained eye and thought of a student of anthropology and heredity, the present outlook is pitiful indeed !"

ABDOMINAL OPERATIONS FROM AUGUST, 1886, TO MAY, 1892.

No.	Name and Date.	Age.	Disease.	Operation.	Drainage.	Result.	Operator.
1	Mrs. H. 1886.	38	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Broomall
2	Mrs. B. 1886.	50	Ovarian cyst (multilocular).	Ovariectomy.	No	Recovery	Dr. Broomall
3	Mrs. D. 1887.	35	Chronic salpingitis and ovaritis; pyosalpinx of left tube.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
4	Miss N. 1887.	19	Tubercular salpingitis and ovaritis; caseous tubes and ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
5	Mrs. D. 1887.	28	Double pyosalpinx.	Removal of appendages (bilateral).	No	Death on 5th day from peritonitis.	Dr. Broomall
6	Mrs. W. 1887.	42	Ovarian cyst (multilocular).	Ovariectomy.	No	Recovery	Dr. Broomall
7	Mrs. S. 1887.	31	Abdomen greatly distended with ascitic fluid; multilocular ovarian cyst with numerous adhesions.	Exploratory incision, with evacuation of ascitic fluid; further procedure not desired by friends.	Yes	Recovery	Dr. Broomall
8	Miss C. 1887.	29	Congenital arrest in development of uterus; amenorrhea; periodic attacks of severe pain from ovarian congestion.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
9	Miss S. 1887.	22	Chronic ovaritis and salpingitis; extreme mental depression.	Removal of appendages (bilateral).	No	Death on 3d day from peritonitis.	Dr. Broomall
10	Miss D. 1887.	22	Large multiple fibroid of uterus.	Hysterectomy.	No	Recovery	Dr. Granville Bantock, of London, assisted by Dr. Broomall
11	Mrs. R. 1887.	42	Hydrosalpinx of right tube.	Removal of appendages.	No	Recovery	Dr. Granville Bantock, of London, assisted by Dr. Broomall
12	Mrs. P. 1887.	35	Multiple fibroid of uterus; firm adhesions.	Exploratory incision.	No	Recovery	Dr. Broomall
13	Mrs. K. 1887.	40	Chronic ovaritis and salpingitis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
14	Mrs. S. 1887.	31	Ovarian cyst; multilocular (malignant).	Ovariectomy.	Yes	Death	Dr. Broomall
15	Mrs. S. 1888.	24	Extreme distension of colon simulating an ovarian cyst.	Exploratory incision.	Yes	Recovery	Dr. Crossdale
16	Mrs. L. 1888.	30	Chronic salpingitis and ovaritis (puerperal).	Removal of appendages (bilateral).	No	Recovery	Dr. Broomall
17	Mrs. H. 1888.	38	Ovarian cyst (unilocular).	Ovariectomy.	No	Recovery	Dr. Broomall
18	Mrs. G. 1888.	50	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Broomall
19	Miss R. 1888.	25	Dermoid cyst of right ovary; dense adhesions.	Evacuation and drainage.	Yes	Recovery	Dr. Broomall
20	Mrs. W. 1888.	29	Chronic ovaritis and salpingitis; numerous adhesions.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
21	Mrs. G. 1888.	45	Chronic ovaritis and salpingitis (dense adhesions).	Removal of appendages.	Yes	Recovery	Dr. Broomall
22	Miss S. 1888.	46	Ventral hernia.	Radical operation.	Yes	Recovery	Dr. Broomall
23	Mrs. M. 1888.	25	Pyosalpinx of right tube.	Removal of appendages of right side.	Yes	Recovery	Dr. Broomall
24	Mrs. S. 1888.	29	Ruptured tubal pregnancy.	Removal of appendages of right side with gestation cyst and fetus.	Yes	Recovery	Dr. Broomall

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and date.	Age	Disease.	Operation.	Drainage.	Result.	Operator.
53	1889. Mrs. J. May 30	25	Double pyosalpinx.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
54	Mrs. P. July 18	23	Chronic salpingitis and ovari- tis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
55	Mrs. H. July 18	40	Chronic salpingitis and ovari- tis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
56	Mrs. J. July 25	35	Hematosalpinx of left side; evacuation of contents of uterus.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
57	Mrs. R. Aug. 1	29	Uterine fibroid-myoma.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
58	Mrs. O. Aug. 7	29	General pelvic adhesions.	Breaking up of adhesions.	Yes	Recovery	Dr. Broomall
59	Mrs. C. Aug. 10	46	Large degenerating myo-fibro- ma of uterus; patient septic on admission.	Hysterectomy.	No	Death on 3d day from sep- sis.	Dr. Broomall
60	Mrs. K. Sept. 7	40	General pelvic adhesions.	Separation of adhesion.	Yes	Recovery	Dr. Broomall
61	Mrs. M. Sept. 11	45	Multiple myo-fibroma of uterus.	Exploratory incision; ad- hesions dense and univer- sal.	No	Recovery	Dr. Broomall
62	Mrs. B. Sept. 28	45	Multiple uterine fibroid.	Hysterectomy.	No	Recovery	Dr. Broomall
63	Mrs. H. Sept. 29	22	Chronic salpingitis and ovari- tis; threatened miscarriage.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
64	Mrs. M. Sept. 30	29	Epilepsy from ovarian irri- tation; cystic ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
65	Mrs. E. Oct. 10	38	Complete inversion of uterus of seven months standing; cer- vical constriction rigid.	Abdominal incision for bi- manual manipulation.	Yes	Recovery	Dr. Broomall
66	Mrs. S. Nov. 18	37	Large multiple fibroid of uter- us; firm adhesions.	Exploratory incision.	No	Recovery	Dr. Broomall
67	Mrs. D. Nov. 23	69	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Croasdale
68	Mrs. A. Dec. 30	30	Pyosalpinx.	Removal of appendages.	Yes	Recovery	Dr. Croasdale
69	Mrs. K. 1890.	39	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Croasdale
70	Mrs. H. Jan. 1	27	Chronic salpingitis; sclerosis of ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
71	Mrs. T. Mar. 1	29	Chronic salpingitis and ovari- tis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Croasdale
72	Mrs. L. Apr. 4	35	Universal pelvic adhesions.	Separation of adhesions.	Yes	Recovery	Dr. Fullerton
73	Mrs. V. Apr. 26	26	Ovarian cyst, right side (uni- locular).	Removal of appendages, right side.	Yes	Recovery	Dr. Fullerton
74	Mrs. D. Apr. 29	41	Multiple fibroma of uterus.	Hysterectomy.	No	Recovery	Dr. Fullerton
75	Mrs. B. May 14	18	Double pyosalpinx.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
76	Mrs. S. May 24	32	Dermoid cyst.	Removal.	Yes	Recovery	Dr. Fullerton
77	Mrs. G. June 7	30	Parovarian cyst.	Removal.	Yes	Recovery	Dr. Croasdale
78	Mrs. W. June 9	24	Chronic salpingitis and ovari- tis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Croasdale
79	Mrs. J. June 12	23	Chronic salpingitis and ovari- tis.	Removal of appendages (bi lateral).	Yes	Recovery	Dr. Croasdale
80	Mrs. S. June 12	54	Uterine fibroid; intramural.	Hysterectomy.	Yes	Recovery	Dr. Croasdale
81	Mrs. W. June 17	30	Universal pelvic adhesions; re- troverted uterus.	Exploratory incision.	Yes	Recovery	Dr. Croasdale
82	Mrs. S. June 23	38	Universal pelvic adhesions.	Exploratory incision.	No	Recovery	Dr. Croasdale
83	Mrs. W. June 23	27	Uterine fibro-myoma.	Removal of appendages (bilateral).	No	Recovery	Dr. Croasdale
84	Mrs. C. July 15	40	Chronic salpingitis and ovari- tis; recurrent peritonitis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and date.	Age	Disease.	Operation.	Drainage.	Result.	Operator.
25	1888. Miss C. Aug. 2	35	Hematocele. Patient suffering from sepsis on admission.	Removal of appendages (unilateral) with thor- ough cleansing of pelvic cavity of blood and clots.	Yes	Death on 2d day from sep- sis.	Dr. Fullerton
26	Mrs. H. Aug. 6	24	Cystic degeneration of ovaries with prolapsus; recurrent pelvic peritonitis.	Removal of appendages.	Yes	Recovery	Dr. Broomall
27	Miss B. Sept. 12	34	Uterine fibroid; chronic ovaritis and salpingitis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
28	Mrs. S. Nov. 11	34	Ruptured tubal pregnancy.	Removal of appendages of right side with gestation sac and fetus.	No	Recovery	Dr. Broomall
29	Mrs. M. Dec. 26	31	Cyst of left broad ligament; dense adhesion.	Evacuation with drainage of cyst cavity.	Yes	Recovery	Dr. Broomall
30	Mrs. P. Dec. 27	30	Multiple uterine fibroid.	Hysterectomy.	No	Recovery	Dr. Broomall
31	Mrs. W. Dec. 28	49	Intra-mural uterine fibroid; dense and extensive adhe- sions.	Exploratory incision; sep- aration of some adhe- sions.	Yes	Recovery	Dr. Broomall
32	1889. Mrs. T. Jan. 28	32	Omental cysts; free liquid in abdomen.	Exploratory incision; with evacuation of ascitic fluid.	Yes	Recovery	Dr. Broomall
33	Mrs. B. Jan. 29	49	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Broomall
34	Miss P. Jan. 30	19	Cystic degeneration with pro- lapse of right ovary.	Removal of appendages of right side.	Yes	Recovery	Dr. Broomall
35	Miss W. Feb. 27	22	Congenital absence of vagina; arrest in development of uterus. Ovarian congestion with recurring attacks of se- vere suffering from the men- strual moulins.	Exploratory incision to aid in attempt to open up the vagina.	Yes	Recovery	Dr. Broomall
36	Miss K. Mar. 16	16	Fixation of uterus by adhe- sions.	Breaking up of adhesions.	Yes	Recovery	Dr. Broomall
37	Mrs. S. Mar. 16	37	Chronic Ovaritis and salpin- gitis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
38	Miss A. Mar. 20	31	Chronic salpingitis and ovar- itis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
39	Mrs. J. Apr. 1	31	Pyosalpinx of left tube; dense adhesions.	Evacuation and drainage of cyst sac.	Yes	Recovery	Dr. Broomall
40	Mrs. K. Apr. 6	35	Hydrosalpinx of right tube.	Removal of appendages of right side.	Yes	Recovery	Dr. Broomall
41	Miss W. Apr. 6	22	Congenital arrest in develop- ment of pelvic organ.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
42	Second- ary Mrs. R. Apr. 20	28	Chronic salpingitis and ovar- itis.	Removal of appendages.	Yes	Recovery	Dr. Broomall
43	Mrs. E. Apr. 22	45	Multiple fibroid of uterus; ex- cessive bleeding.	Hysterectomy.	No	Recovery	Dr. Broomall
44	Miss K. Apr. 22	32	Salpingitis with cystic degen- eration of left ovary.	Removal of appendages of left side.	Yes	Recovery	Dr. Broomall
45	Mrs. H. Apr. 27	29	Chronic salpingitis and ovar- itis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
46	Miss J. May 4	17	Tubercular tubes and ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
47	Mrs. J. May 11	27	Double pyosalpinx.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
48	Mrs. D. May 12	27	Gynaecoma at full term; conju- gata vera 6½ cm.	Cesarean section.	No	Recovery	Dr. Broomall
49	Mrs. S. May 12	30	Double pyosalpinx.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
50	Mrs. F. May 17	29	Sarcoma of left ovary.	Removal of appendages of left side.	Yes	Recovery	Dr. Broomall
51	Mrs. B. May 22	44	Large multiple fibroid of uter- us; universal adhesions.	Exploratory incision.	No	Recovery	Dr. Broomall
52	Mrs. F. May 23	35	Chronic salpingitis and ovar- itis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and Date.	Age.	Disease.	Operation.	Drainage.	Result.	Operator.
110	Mrs. H. 1890 Oct. 4.	35	Uterine fibroid.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Crossdale
111	Mrs. B. 1890 Oct. 4.	52	Ovarian cyst (multilocular); numerous adhesions.	Exploratory incision, with partial removal.	Yes	Recovery.	Dr. Crossdale
112	Mrs. W.G. 1890 Oct. 30.	27	Double ovarian cyst (suppurating).	Removal.	Yes	Death on 2d day from sepsis.	Dr. Crossdale
113	Mrs. E. 1890 Nov. 3.	52	Carcinoma of pancreas; par-ovarian cyst.	Exploratory incision.	Yes	Recovery.	Dr. Crossdale
114	Mrs. F. 1890 Nov. 11.	27	Parovarian cyst.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Crossdale
115	Mrs. S. 1890 Nov. 28.	51	Ovarian cyst (multilocular).	Ovariectomy.	Yes	Recovery.	Dr. Roberts, assisted by Dr. Fullerton
116	Mrs. B. 1890 Dec. 12.	37	Pelvic adhesions.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Crossdale
117	Mrs. K. 1890 Dec. 13.	38	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery.	Dr. Broomall
118	Mrs. S. 1890 Dec. 16.	35	Fibro-myoma of uterus.	Hysterectomy.	No	Death one week after operation from heart-clot.	Dr. Broomall
119	Mrs. T. 1890 Dec. 23.	36	Chronic salpingitis and ovaritis; recurrent peritonitis.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Broomall
120	Mrs. C. 1890 Dec. 30.	37	Sub-peritoneal uterine fibroid.	Hysterectomy.	Yes	Recovery.	Dr. Broomall
121	Mrs. H. 1891 Jan. 3.	24	Pelvic adhesion with retroversion of uterus.	Breaking up of adhesions.	Yes	Recovery.	Dr. Broomall
122	Mrs. Z. 1891 Jan. 7.	33	Chronic salpingitis and ovaritis; recurrent peritonitis.	Removal of appendages on left side.	Yes	Recovery.	Dr. Broomall
123	Mrs. N. 1891 Jan. 10.	32	Pelvic adhesions.	Breaking up of adhesions.	Yes	Recovery.	Dr. Broomall
124	Mrs. C. 1891 Jan. 30.	38	Retroverted adherent uterus; chronic salpingitis and ovaritis.	Removal of appendages on right side.	Yes	Recovery.	Dr. Broomall
125	Mrs. C. 1891 Jan. 31.	35	Multiple uterine fibroid.	Removal of appendages.	Yes	Recovery.	Dr. Broomall
126	Mrs. B. 1891 Feb. 3.	29	Sub-peritoneal uterine fibroid.	Hysterectomy.	Yes	Death a week after operation from peritonitis.	Dr. Broomall
127	Mrs. D. 1891 Feb. 7.	36	Hematosalpinx of right tube.	Removal of appendages on right side.	Yes	Recovery.	Dr. Broomall
128	Mrs. H. 1891 Feb. 7.	22	Chronic salpingitis and ovaritis; dense adhesions.	Removal of appendages (bilateral).	Yes	Death due to secondary hemorrhage caused by retained necrotic mass.	Dr. Broomall
129	Mrs. G. 1891 Feb. 10.	26	Dermoid cyst.	Removal.	Yes	Recovery.	Dr. Broomall
130	Mrs. N. 1891 Mar. 7.	30	Chronic salpingitis and ovaritis; dense adhesions.	Removal of appendages.	Yes	Obstruction of bowels on 3d day.	Dr. Fullerton
131	Mrs. N. 1891 Mar. 10.	30	Intestinal obstruction.	Freeing of knuckle of intestine from constricting band of omentum.	Yes	Death 24 hours after operation from peritonitis.	Dr. Fullerton
132	Mrs. W. 1891 Mar. 17.	30	Tubal pregnancy threatening rupture.	Removal of appendages on right side.	Yes	Recovery.	Dr. Fullerton
133	Mrs. G. 1891 Mar. 29.	30	Dermoid cyst.	Removal.	Yes	Recovery.	Dr. Fullerton

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and Date.	Age.	Disease.	Operation.	Drainage.	Result.	Operator.
85	Mrs. B. 1890 July 15.	60	Ovarian cyst (multilocular).	Ovariectomy.	Yes	Recovery.	Dr. Fullerton
86	Mrs. H. 1890 July 19.	28	Double pyosalpinx.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
87	Mrs. H. 1890 July 19.	17	Double ovarian cystomata (suppurating). Patient admitted with septic fever.	Ovariectomy.	Yes	Death end of a week from sepsis.	Dr. Fullerton
88	Mrs. B. 1890 July 20.	27	Pelvic abscess: entire pelvis filled with pus; post-operative pelvis.	Evacuation and flushing of pelvis.	Yes	Recovery.	Dr. Fullerton
89	Mrs. C. 1890 July 22.	18	Double pyosalpinx with ovarian abscess; post-operative pelvis.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
90	Mrs. W. 1890 July 22.	14	Peritoneal cyst; tubercular tubes and ovaries.	Evacuation of fluid; removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
91	Mrs. J. 1890 July 22.	24	Double ovarian cysts.	Ovariectomy.	Yes	Recovery.	Dr. Fullerton
92	Mrs. A. 1890 July 22.	29	Hematosalpinx of right side.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
93	Mrs. B. 1890 July 26.	23	Hematosalpinx of left side.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
94	Mrs. M. 1890 July 26.	24	Chronic ovaritis and salpingitis; dense adhesions; tubes occluded.	Removal of appendages (bilateral).	No	Recovery.	Dr. Fullerton
95	Mrs. P. 1890 Aug. 8.	38	Multiple uterine fibroid.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
96	Mrs. G. 1890 Aug. 8.	8	Hypertrophy of spleen, which almost filled the abdominal cavity.	Removal of appendages (bilateral).	No	Recovery.	Dr. Fullerton
97	Mrs. S. 1890 Aug. 13.	65	Ascites due to carcinoma of liver. Patient brought to hospital in a carriage almost moribund.	Exploratory incision 1½ inches long to drain off excessive fluid and relieve the distressing breathing.	No	Death on 24 day from exhaustion due to disease.	Dr. Fullerton
98	Mrs. B. 1890 Aug. 16.	22	Hematosalpinx of left side; chronic disease of right.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
99	Mrs. S. 1890 Aug. 17.	54	Malignant disease of all the abdominal viscera.	Exploratory incision; removal of ascitic fluid.	No	Recovery.	Dr. Fullerton
100	Mrs. Y. 1890 Aug. 17.	32	Double ovarian cystomata (suppurating). Patient had moribund habit.	Removal of appendages (bilateral).	Yes	Death from sepsis on 3d day.	Dr. Fullerton
101	Mrs. T. 1890 Aug. 17.	37	Uterine fibroma.	Removal of appendages.	Yes	Recovery.	Dr. Fullerton
102	Mrs. O. 1890 Aug. 17.	19	Infantile uterus; cystic ovaries, with amenorrhoea.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
103	Mrs. M. 1890 Aug. 24.	20	Chronic ovaritis and salpingitis with retroverted adherent uterus. Attacks of hysterical epilepsy.	Removal of appendages (bilateral).	No	Recovery.	Dr. Fullerton
104	Mrs. V. 1890 Aug. 24.	34	Acute pelvic peritonitis superimposed upon a chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
105	Mrs. S. 1890 Aug. 24.	43	Chronic salpingitis and ovaritis; recurrent peritonitis.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
106	Mrs. C. 1890 Aug. 24.	30	Cystic degeneration of ovaries (puerperal) occasioning pain and hemorrhage.	Puncture of cysts.	No	Recovery.	Dr. Fullerton
107	Mrs. O. 1890 Aug. 24.	21	Cystic ovaritis (puerperal), with hemorrhage.	Puncture of cysts.	No	Recovery.	Dr. Fullerton
108	Mrs. T. 1890 Aug. 24.	27	Hematosalpinx of right ovary; chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Fullerton
109	Mrs. B. 1890 Sept. 15.	21	Cyst of left ovary; hematosalpinx of right ovary.	Removal of appendages (bilateral).	Yes	Recovery.	Dr. Crossdale

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and Date.	Age	Disease.	Operation.	Drainage.	Result.	Operator.
161	Mrs. S. 1892 Jan. 19	36	Perityphilitis.	Exploratory incision; no connection with peritoneal cavity; appendages removed.	Yes	Recovery	Dr. Broomall
162	Miss W. 1892 Jan. 22	27	Double hematomas of ovaries; removal of entire destruction of uterine tubes.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
163	Miss H. 1892 Jan. 23	30	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
164	Mrs. M. 1892 Feb. 2	33	Parovarian cyst.	Removal.	Yes	Recovery	Dr. Broomall
165	Mrs. B. 1892 Feb. 13	35	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
166	Mrs. M. 1892 Feb. 16	31	Parovarian cyst.	Removal.	Yes	Recovery	Dr. Broomall
167	Miss G. 1892 Mar. 6	25	Dermoid cyst with multilocular ovarian cyst.	Removal.	Yes	Recovery	Dr. Fullerton
168	Mrs. L. 1892 Mar. 8	27	Double hydrosalpinx; extensive adhesions; cyst ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
169	Mrs. C. 1892 Mar. 8	41	Ventral hernia; adherent omentum.	Radical operation for hernia; separation of adhesions.	No	Recovery	Dr. Fullerton
170	Mrs. T. 1892 Mar. 11	24	Ruptured tubal pregnancy of left side (about one month).	Removal of appendages of left side.	Yes	Recovery	Dr. Broomall
171	Miss R. 1892 Mar. 14	23	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Drainage tube removed at end of 24 hours; lower end broken off and imbedded in pelvic cavity.	Dr. Fullerton
172	Miss R. 1892 Mar. 15	23	For septic peritonitis induced by imperfect drainage of the through breakage of the blood-clots in pelvic cavity.	Removal of clots and portion of drainage tube which had been broken off; thorough flushing of pelvis and abdomen.	Yes	Death at end of 24 hours from sepsis.	Dr. Fullerton
173	Mrs. D. 1892 Mar. 15	40	Fibro-myoma of uterus; papillomatous cysts of ovaries.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
174	Mrs. M. 1892 Mar. 20	39	Ovarian cyst of left side; chronic salpingitis and ovaritis.	Ovariectomy; removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
175	Mrs. H. 1892 Apr. 16	25	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall
176	Miss B. 1892 Apr. 19	60	Ventral hernia due to the patient's failure to wear truss as directed during her heavy work.	Radical operation.	No	Recovery	Dr. Fullerton
177	Mrs. K. 1892 Apr. 20	45	Multiple uterine fibroid.	Hysterectomy (supra-vaginal).	No	Recovery	Dr. Fullerton
178	Mrs. W. 1892 Apr. 27	30	Pyosalpinx right side; hematosalpinx of left side.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
179	Miss C. 1892 May 7	38	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	No	Convalescing.	Dr. Fullerton

ABDOMINAL OPERATIONS—CONTINUED.

No.	Name and Date.	Age	Disease.	Operation.	Drainage.	Result.	Operator.
181	Mrs. R. 1891 Apr. 9	42	Ovarian cyst (multilocular).	Ovariectomy.	Yes	Recovery	Dr. Broomall
182	Mrs. M. 1891 Apr. 15	22	Chronic salpingitis; cystic ovaries; hysterio-epilepsy.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
183	Mrs. A. 1891 Apr. 15	39	Uterine fibroid.	Removal of appendages.	Yes	Recovery	Dr. Broomall
184	Mrs. L. 1891 Apr. 17	25	Hematoma right ovary; cystic disease of left.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
185	Mrs. H. 1891 Apr. 23	23	Tubal pregnancy threatening rupture.	Removal of appendages on right side.	Yes	Recovery	Dr. Fullerton
186	Mrs. S. 1891 Apr. 29	38	Ruptured tubal pregnancy; pelvis and abdomen filled with blood; patient septic on admission.	Removal of blood and appendages of right side.	Yes	Death on 3d day from sepsis.	Dr. Fullerton
187	Mrs. O. 1891 May 10	42	Utero-abdominal pregnancy; patient septic on admission; gangrene of gestation cyst.	Removal of full term fetus (macerated) and unhealthy portions of gestation sac; adhesions too vascular for entire removal; drainage sac.	Yes	Death on 2d day from sepsis.	Dr. Fullerton
188	Mrs. D. 1891 May 21	35	Pelvic adhesions.	Breaking up of adhesions.	Yes	Recovery	Dr. Fullerton
189	Mrs. K. 1891 May 21	44	Chronic ovaritis and salpingitis; recurrent peritonitis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
190	Mrs. T. 1891 May 23	23	Ovarian cyst complicating five months' pregnancy.	Ovariectomy.	No	Recovery	Dr. Fullerton
191	Mrs. H. 1891 May 25	25	Pyosalpinx of left side; chronic disease of right.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
192	Mrs. F. 1891 June 20	49	Uterine fibroid.	Hysterectomy.	Yes	Recovery	Dr. Crossdale
193	Mrs. E. 1891 Aug. 1	48	Dermoid cyst (suppurating).	Removal.	Yes	Recovery	Dr. Broomall
194	Mrs. R. 1891 Aug. 1	23	Double pyosalpinx; extreme emaciation; patient septic on admission.	Removal of appendages.	Yes	Death on 2d day from sepsis.	Dr. Fullerton
195	Miss G. 1891 Aug. 29	17	Hematoma of left ovary.	Removal of appendages of left side.	Yes	Recovery	Dr. Fullerton
196	Mrs. S. 1891 Sept. 12	22	Cystic disease of ovaries; chronic salpingitis.	Removal of appendages.	Yes	Recovery	Dr. Fullerton
197	Mrs. S. 1891 Sept. 17	31	Caseous tubes and ovaries; universal adhesions.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Fullerton
198	Mrs. L. 1891 Sept. 22	37	Ovarian cyst (unilocular); numerous adhesions.	Ovariectomy.	Yes	Death on 9th day from sepsis.	Dr. Crossdale
199	Mrs. K. 1891 Nov. 2	68	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Fullerton
200	Miss P. 1891 Nov. 12	19	Ovarian cyst (multilocular).	Ovariectomy.	Yes	Recovery	Dr. Fullerton
201	Mrs. S. 1891 Nov. 21	63	Fibroid tumor of uterus; subperitoneal; uterus atrophied and severed from neck by growth of tumor.	Removal.	Yes	Death on 9th day from sepsis.	Dr. Crossdale
202	Miss V. 1891 Dec. 4	29	Chronic salpingitis and ovaritis; sub-peritoneal fibroid of uterus.	Removal of appendages (bilateral).	No	Recovery	Dr. Crossdale
203	Mrs. S. 1891 Dec. 12	48	Ossified; sub-peritoneal fibroid of uterus.	Hysterectomy.	No	Recovery	Dr. Broomall
204	Miss G. 1891 Dec. 15	35	Ovarian cyst (unilocular).	Ovariectomy.	Yes	Recovery	Dr. Broomall
205	Mrs. W. 1891 Dec. 15	29	Retorted uterus; adherent appendages.	Separation of adhesions; correction of position of uterus.	Yes	Recovery	Dr. Broomall
206	Mrs. P. 1891 Dec. 28	35	Hydrosalpinx of right tube.	Removal of appendages of right side.	Yes	Recovery	Dr. Broomall
207	Mrs. B. 1891 Jan. 10	67	Chronic salpingitis and ovaritis.	Removal of appendages (bilateral).	Yes	Recovery	Dr. Broomall

DISCUSSION.

DR. G. BETTON MASSEY: I have been much interested in this useful paper, and particularly in the part relating to the causation of the conditions which we are called upon to treat. I am in unison with the speaker in regard to the advantage of leaving certain fields of work in the hands of specialists, particularly that of abdominal surgery. From the list of cases reported, I notice that the operations performed at the Woman's Hospital were divided between the three gynecological surgeons of that institution, doubtless rightly. And in connection with the statement of specialism, it occurs to me to ask, Who, at the Woman's Hospital, represents the conservative side of gynecology? The three mentioned are doubtless doing good work, but it seems to me that with women who enter the practice of medicine there would be the strongest incentive to at least test what could be accomplished by non operative gynecology. I regret that so little has been done in this connection at the Woman's Hospital.

DR. JOSEPH HOFFMAN: If there is anything impossible, it is to teach electricians that gynecologists do not operate on everything on which they can lay their hands. Dr. Fullerton can tell Dr. Massey a great deal about conservative gynecology. She can tell him about electricity, about poultices, about iodine, about hot water, about rest, and about all the other tomfoolery which tries to get pus out of the pelvis without trying to get it out as you would if it were under the finger-nail. There should have been enough in Dr. Noble's paper to convince every one that we do not want to operate on everything—not even on small things, if unnecessary.

DR. MASSEY: I wish to emphasize the fact that my remarks were directed toward the claim as to the value of specialists. I do not deny that conservative work has been done at that institution, but the claim in regard to the value of specialists is a double-edged sword. If it shows the value in one direction, it does in another, and I wish to know who is the specialist in electricity and conservative measures at the Woman's Hospital?

DR. FULLERTON: My paper presented the principles on which we work at our hospital, and I think that it meets the questions that have been raised. Perhaps it will answer Dr. Massey better if I state that during the time that I have been connected with the Woman's Hospital we have had 18,000 gynecological cases. Of this number there have been only 179 on whom abdominal operations have been done. We insist that every case be thoroughly studied, in order that its needs may be determined, and operative procedure is advised only when we consider it inevitable. Of course, the number of cases actually operated upon does not represent the number for whom operation was advised; but, even taking the cases that refused surgical aid, or who went elsewhere for relief, the proportion of patients for whom operative interference was deemed essential was small as compared to the whole number of cases treated.

DIAGNOSIS OF ULCERATIONS OF THE TONGUE (Fournier).—*I. Traumatic Ulcerations.*—Among these are to be noted those of epilepsy, occasioned by repeated nipping of the tongue by the teeth, and those of whooping-cough resulting from injury by the teeth during the fits of coughing, and distinct from the characteristic ulceration of the frenum.

II. Herpes.—Rare; characterized by the following signs: It is a superficial erosion, irregular, sinuous,

segment-shaped, the débris of original vesicles. In some cases herpes readily recurs.

III. Aphtha.—A small ulceration, sometimes found on the tongue, but more frequently on the mouth. It is perfectly circular, with clean-cut edges and a yellowish-colored bottom. It is always surrounded by a purplish border.

IV. Lingual Hydroa.—Small erosions, diagnosed by the co existence of hydroa in other parts (very rare).

V. Leucoplastic Ulcerations.—In leucoplasia there may be produced little furrows, or even true ulceration. The nature of these ulcerations may be easily known by the whitish layer proper to lingual leucoplasia.

VI. Mercurial Ulcerations are situated always on the edges of the tongue, and, as has been remarked, on the side on which the person has been accustomed to lie on while sleeping. The diagnosis is easy, based on the etiological circumstances and the following characters:

1. Grayish aspect (diphtheritic).
2. General inflammation of the mouth ("mercurial stomatitis").
3. Disagreeable odor (fetid).
4. Laceration.
5. Deformed appearance of the tongue from marks of the teeth. The inflammation may become gangrenous.

VII. Tubercular Ulcerations.—A localization of buccal tuberculosis, showing on the tongue the general characters of the tuberculous ulcer. It is round, sometimes quite irregular, with a grayish-yellow, granular, uneven bottom. Is recognized by probable signs and by demonstration.

1. *Probable Signs.*—Pain, produced by passage of food and liquids. Chronicity refractory to treatment; in the majority of cases it persists till death. It co-exists with other tubercular lesions, notably pulmonary phthisis. If the ulcer is even primary, it is produced much more often in the already tuberculous person, and is a *true inoculation* by the sputa. This is a strong point in the diagnosis.

2. *Demonstrative Signs.*—It sometimes happens that there are produced in the tuberculous ulceration one or more yellowish points, resembling miliary abscesses; these are tubercles in process of development. This fact, noted by Trélat, is a sure sign.

3. *Bacteriological Culture.*—If by this means a colony of the bacilli of Koch are produced, the demonstration is made.

VIII. Syphilitic Ulcerations.—(a) *Primary Ulceration, or Chancre.*—Is somewhat rare; nevertheless, after that of the lip, it is the most frequently met with of extra genital chancres. Its chosen seat is the anterior third of the dorsum of the tongue; it is nearly always single, presenting usually a simple erosion, and showing the ordinary characters of chancre—indurated base, glandular enlargement, etc.

(b) *Secondary Syphilides.*—Commonly called mucous plaques. Their aspect is variable; there are four types—erosive, papulo-erosive, papulo-hypertrophic, ulcerous. The mucous plaque type is so frequent that nearly all syphilitics present it. It is generally stated that the mucous plaque of the tongue is easily diagnosed; this is an error, as it may present insurmountable difficulties. It may be simulated by recurring herpes, by local nicotine poisoning; and to make a positive diagnosis, it is frequently necessary to wait some time.

—E. W. Bing, M.D., Translator.

The Times and Register

A Weekly Journal of Medicine and Surgery.

WILLIAM F. WAUGH, A.M., M.D., Managing Editor.

EDITORIAL STAFF:

W. F. HUTCHINSON, M.D., New England Editor.

A. E. ROUSSEL, M.D., Philadelphia.

HERMAN D. MARCUS, M.D., Philadelphia.

LOUIS LEWIS, M.D., Philadelphia.

E. W. BING, M.D., Chester, Pa.

E. P. HURD, M.D., Mass.

MARY A. D. JONES, M.D., Department of Gynecology.

THE TIMES AND REGISTER,

FORMED BY UNITING THE

PHILADELPHIA MEDICAL TIMES,

THE MEDICAL REGISTER,

THE POLYCLINIC,

THE AMERICAN MEDICAL DIGEST,

Published by the MEDICAL PRESS CO., Limited.

Address all communications to 1725 Arch Street, Philadelphia.

New York and Philadelphia, June 11, 1892.

WE note that Dr. Jacobi has had some trouble with peroxide of hydrogen, claiming that it produced local irritation to such an extent as to interfere seriously with its employment locally on the mucous membranes of children. There are many preparations now in the market, and some that claim to be very strong. What effect these would have we cannot say from experience. We began to use Marchand's preparations, and will continue to employ them as long as their use gives as satisfactory results, as they have invariably done hitherto. The contact of the undiluted 15-volume solution with the writer's hands caused some roughness; the peroxide attacking the outside horny layers of the epidermis, whose vitality had been lost. This suggested the possibility of an irritant action on the mucous membranes of strumous children, whose vitality is low at any rate. But in no instance that has come under the writer's notice has this been the case. Beginning with one-fourth the full strength, this has never proved too strong, even for young infants whose tissues were partly devitalized by diphtheria or scarlatina. When the first signs of coryza led us to fear that the nasal tract was being invaded by these dreaded diseases, the peroxide has been lavishly applied to all the nasal tract accessible by syringe or douche. If sufficient effect was not produced by one-fourth the strength, the proportion of peroxide was increased to one-half, and sometimes it was employed undiluted; but in no instance has any undue irritation ensued. In one case, already published, a child about two years of age, very fair, with red hair and fragile tissues, had been given up with nasal diphtheria. Six quart bottles of Marchand's peroxide were used in this case during one week; the child was snatched from the jaws of death, and no irritation followed this wholesale application of the agent. Our experience with this solution has been so wide, and the results so uniform, that we are totally at a loss to account for the ill effects obtained by others.

IT has been our wish to give our readers a number devoted exclusively to orthopedic surgery; but, after waiting a long time for promised material, we are compelled to issue the number with what papers have been received. Dr. Wilson has been known for years as an earnest worker in this field, as his numerous writings testify. He graduated from Jefferson Medical College in 1879, and has since practised in Philadelphia. He has for some years held the chair of General and Orthopedic Surgery in the Philadelphia Polyclinic, and that of Clinical Professor of Orthopedic Surgery in the Woman's Medical College. He was also Clinical Lecturer on Orthopedic Surgery in the Jefferson Medical College until the recent rejuvenation of that venerable institution, when his chair was raised to a Clinical Professorship. He also holds several hospital appointments.

Professor Wilson is a pleasant lecturer, speaking in a conversational manner, and holding his listeners' attention rather by his own earnestness than by any oratorical display.

As many friends of Jefferson College will wish to know something of her new Professor of Orthopedic Surgery, we append a list of his principal contributions to current medical literature; and in another department we give a number of extracts from his writings:

"The Pathology of Hip-joint Disease, with Illustrative Cases." (Delivered at Jefferson Medical College Hospital.)

"The Aseptic Closure of Long standing Sinuses, Having their Origin in Tubercular Joints." (Read before the Philadelphia Academy of Surgery.)

"Tenotomy by Open Incision for Talipes Equinus; Torticollis from Rheumatoid Arthritis; Subcutaneous Tenotomy of Sterno cleido-mastoid for Torticollis." (*American Lancet*.)

"Tenotomy by Open and Subcutaneous Incision, Tubercular Synovitis and Osteitis of Shoulder." (*Therapeutic Gazette*.)

"The Etiology of Club-foot. The Treatment of Club foot. The Plaster of Paris Bandage."

"Scope of Orthopedics. The Forms of Club-foot. Tenotomy." (*Med. and Surg. Reporter*.)

"Illustrative Cases of Congenital Club foot." (*Annals of Gynecology and Pediatrics*.)

"Tubercular Caries of Lumbar Vertebrae. Hip Disease. Multiple Sinuses. Spondylitis." (*Med. and Surgical Reporter*.)

"A New Apparatus for Preparing Dry Gypsum Bandages." (Read before the Philadelphia County Medical Society.)

"Subcutaneous Osteotomy of Femur. Incipient Hip-joint Disease." (*Arch. Pediatrics*.)

"Report of a Case of Spina Bifida, with Partial Motor and Sensory Paralysis of Both Extremities, Complete Paralysis of the Sphincters of the Bladder and Rectum, Double Equinovarus and Purulent Bursitis." (Transactions of American Orthopedic Association.)

"Early Recognition of Incipient Hip Disease in the Prevention of Deformity." (*Phila. Polyclinic*.)

"Ankylosis of Knee-joint." (*Southern Clinic*.)

"A Demonstration of Some of the Causes of Rotary Lateral Curvature of the Spine." (*Jour. Amer. Med. Assoc.*)

Letters to the Editor.

ANTIDOTE FOR TOBACCO.

THE more I read your Journal the better I like it; the last number is especially excellent. I would like to know if you have published a tobacco antidote, or cure for the tobacco habit in any past issue. If so, please send me one, and if you have not, will you soon do so?

R. R. TIDRICK, M.D.

BRINGHURST, IND.

[Men rarely want to be cured of the tobacco habit. There is no better remedy than coca, in plugs, for chewing.]

A WART STORY.

LAST month a gentleman called on me to be examined for life insurance. I noticed that the backs of his hands and fingers presented a large array of unsightly warts ("verrucae vulgaris"), which he said had hitherto resisted all treatment, either returning or refusing to go. He went to the West Indies, and, during the voyage, shot a porpoise, which was hauled on deck, and, in cutting up the carcass, his hands were freely besmeared with the blood. To his surprise, every wart vanished in short order, and none have come back. Returning to Philadelphia to-day, he presented himself to me with a perfectly clean pair of hands. I have often heard that pig's blood will remove warts, and have received the news with a large grain of salt; but here is a singular coincidence, to say the least of it, if only in the resemblance between a porpoise and a pig. I should like to give this "remedy" a trial; but few druggists keep porpoises in stock, and I do not think I could shoot one.

LOUIS LEWIS, M.D.

The Medical Digest.

THE MEANING OF A BABY'S FOOTPRINT.—Dr. Louis Robinson, in the *Nineteenth Century*, London, May, says: "The Hand, its Mechanism, and Vital Endowments as Evincing Design," was the title of one of the Bridgewater Treatises contributed by Sir Charles Bell. It is interesting to speculate how the great anatomist would have marshaled his arguments to prove his case if the foot had formed the subject of the treatise, instead of the hand. In the light of our present knowledge no part of the human frame seems to indicate more clearly the truth of the Darwinian theory of human descent, and to show that its "mechanism and vital endowments" were primarily adapted for far other uses than those to which the organ is now put. To those not conversant with the anatomical structure of the human foot, as compared with that of the higher apes, this may seem a bold statement, since in no part of his body does man apparently differ more from the quadruped than in the outward appearance and functions of his lower extremities.

If, like the writer of the fourth Bridgewater Treatise, we were to endeavor to prove design from the various part of the elaborate machinery of bones, muscles and tendons, revealed by dissection, our inves-

tigations might well end in a conclusion that some sort of design was indicated; but it would be design which plainly had in view the purpose of climbing trees, rather than that of walking or running upon terra firma.

If, by any chance, the structures of a human foot could be perfectly preserved so as to come under the criticism of the pundits, in an age as far remote in the future as ours is from the secondary epoch in the past, it is reasonable to speculate that the Owens and Huxleys of that time, after much discussion, would conclude that quaternary man was an animal capable of fair progression on the ground, but whose usual habitat was among the branches of trees. One might easily imagine that while the terrestrialists would hold fast by the bones and ligaments, the aborealists would pin their faith to the muscles. The skeletal parts, showing the firm arch, the closely bound metatarsal bones, and the parallel position of the great toe, indicate a fitness to bear weight from above; yet, even here, it might be shown that there are few points of vital difference between apes and man; in man, too, while each contiguous pair of the four outer toes have a common joint with the tarsus, the great toe, like a true thumb, has a separate articulation, indicating a certain measure of independence and freedom of movement.

In the study of feet, it is convenient to mark out broadly two classes. In the one, the foot is used almost solely for locomotion, and the structure is correspondingly simple. The other class includes those feet which have several accessory functions and corresponding machinery, as the claws of the feline tribe and others. The extremities of the apes and other animals with a well-developed grasping power, have an extremely elaborate system of muscles to regulate the varied movements; and whenever we find a similarly elaborate system in the extremities of any animal, we may safely predicate arboreal habits, either past or present, if there is any truth whatever in the laws of evolutionary development.

It is, therefore, more than probable that the marvelous range and versatility of movement in the human hand is traceable to the thousand and one emergencies which our ancestors managed to meet when they had to flee from cats and snakes among the tree tops of the tropic forest.

But what about the human foot? Judged by its present functions, it must be classed among those used almost exclusively for terrestrial locomotion; but when we examine its structure, we find that it has an extraordinary number of muscles which indicate a great range and variety of digital movements, and which at one time must have been of the greatest importance in the struggle for existence. The foot of man is structurally a prehensile organ.

We find evidence corroborative of this view in the feet of very young children. In the first place, their toes are much more mobile than those of adults. This general freedom of motion, together with the thumb like action of the pollex, renders it possible to cause the great toe of an infant to touch each of the others with a very little aid from the observer. Any slight irritation of the skin of the sole of the foot will cause an instant reflex action of the flexor or grasping mechanism of the toes, exactly as titillation of the hand will cause the fingers to close upon the palm. Finally, a close examination of the foot of a newborn infant reveals the fact that the sole is covered with lines of a character exactly similar to those of the hand; and when the toes are bent downward these become deep creases, showing that they are like

the palmar lines, the natural folding-places of the integument to facilitate the action of grasping.

It is, therefore apparent that if some creative force constructed all parts of the foot of man with some definite purpose in view, the intention did not include any great advance in the arts of civilization.

—*Literary Digest*

PYOKTANIN IN TUBERCULAR SINUSES.—Tubercular sinuses are extremely difficult to trace, and we are apt to lose sight of them in the open wound. To avoid this I have resorted to two methods, usually with satisfactory results. The first is by the use of a probe inserted to the farthest extent of the sinus before operating, and allowed to remain to act as a guide. There is one objection to this method, however. If there exist several sinuses radiating in different directions, the probe can only follow one, and the others are apt to be overlooked. Therefore, I have resorted to the employment of pyoktanin. There is one objection to its more general use as an antiseptic, and that is its staining property, which indelibly stains everything with which it comes in contact. It is, in the powdered form, of a greenish, or, we might say, of an olive-green color, but in an aqueous solution it becomes of this beautiful purple color. A syringeful of this solution is injected into the sinuses, and it reaches every recess, and remains in contact with the tissues for a sufficiently long time to stain them, and renders the lining membrane of the sinus plainly discernible when the parts are laid open.—H. A. Wilson.

USE NO ANÆSTHETIC IN EXAMINING FOR HIP-JOINT DISEASE.—The thought may occur to you to administer an anæsthetic in such a case in order to thoroughly relax the rigidly contracted muscles, so that the presence of joint adhesions could the better be determined. Let me urge you not to have recourse to such a method and to explain the reasons. Under either there is no indicator to show the amount of traumatism produced in the efforts to determine the presence of fixation, and as a result, free motions are apt to be made by the manipulator, and the bone already softened by tubercular deposit, is broken and crushed, and any tendency towards absorption and resolution is changed into a destructive action.

—H. A. Wilson.

A NEW APPARATUS FOR PREPARING DRY GYPSUM BANDAGES.—Rolling the dry plaster of Paris bandages by hand, the method usually in use, is unsatisfactory, and under the most favorable circumstances a dirty process. It was to avoid the inconveniences and irregularities of that method that I devised this apparatus.

It consists of an ordinary box-bandage roller, with the addition of the following: A movable bottom, held in contact with the outermost layer of the bandage, as it is rolled, by a rubber band, and at the other end by a hinge-joint. Upon this movable bottom, and just in front of the crank, is a flood-gate or distributor, which equalizes the distribution of the plaster and presses it into the bandage from above, while the movable bottom prevents the gypsum passing through the meshes. The proper tension is applied by two rubber bands.

Elastic bands are used for springs, because they are inexpensive and can be very readily replaced when worn out.

The method of using is, first, to pass the end of the bandage to be rolled over the movable bottom, under

the distributor, and attach to the crank. While the crank is turned with the right hand the left guides the bandage, which may be watched as it is being rolled.

When a bandage is finished, a quick reverse turn of the crank enables it to be easily withdrawn. The gypsum remaining on the movable bottom is now discharged into the compartment by detaching the spring and raising that end.

The apparatus is applicable to the rolling of the ordinary surgical bandage by detaching the rubber spring, thus allowing the movable bottom to drop out of the way. It prepares the dry gypsum bandages evenly and quickly. It is very simple in its construction and action. It cannot get out of order except by the breaking of the rubber bands. It is inexpensive.—H. A. Wilson.

IMMOBILIZATION IN HIP-JOINT DISEASE.—The disease may be, and often is, present long before we are able to discern it by any known methods. It may exist as osteitis for weeks and months without our knowledge, and only be manifested when a synovitis develops itself. The earlier immobilization is applied to hip joint disease, the better will be the result. The truth of this assertion may be seen in those cases which have been allowed to run along, without early immobilization. I believe, that in cases where a reasonable doubt exists in the diagnosis, that it is judicious to resort to immobilization and await the development of a certainty, rather than to adopt the more common plan of letting the disease develop into a stage that renders successful treatment far more difficult. There is rarely any difficulty in diagnosis when decided purulent synovitis is present, and no credit is due to the one who then recognizes the lesion. The real difficulty lies in perceiving the character of the malady at the earliest possible moment.

If you feel restrained from immobilizing a healthy joint from any fears of ankylosis, let me comfort you with the assurance, that in the treatment of osteitis of the hip immobilization has been maintained for a year at a time without ankylosis, and not in one case, but many. Further, that early ankylosis in the proper position as a sequel to hip disease should rather be sought than avoided. In this attempt there will be an entire avoidance of traumatism of motion and a more speedy arrest of the progress of the disease.

—H. A. Wilson.

SINUSES.—The procedures to be adopted may best be considered if the conditions are grouped as follows:

1. Those sinuses in connection with accessible joints where the tubercular deposit can be safely removed.
2. In similar positions, but where its removal can not be safely accomplished.
3. Sinuses from inaccessible deposits.

Under the first heading, sinuses in connection with accessible joints, where the tubercular deposit can be safely removed, the modern plan of procedure is self evident. Under strict asepsis, or chemical antiseptics, the focus should be removed in its entirety, leaving only healthy tissue behind. The cavity of the sinus denuded of its lining membrane by clean incision, in preference to tearing or scraping, and the entire cavity of the sinus and of the site of the former deposit rendered aseptic by thorough washing with peroxide of hydrogen, followed by irrigation of 1 to 2,000 bichloride of mercury, and, finally, the entire surface covered with iodoform emulsion. The parts are then to be brought into coaptation by subcutaneous sutures; iodoform dusted over incision; collodion gauze;

finally, hermetically sealing the wound. Gentle but firm pressure with aseptic gauze and bandages complete the dressings.

II. Where the sinuses are in connection with accessible points, where the removal of the tubercular deposit cannot be safely accomplished.

In these cases, as, for example, in hip disease, when the ilium has become denuded or involved, or in the lumbar vertebræ, it has been found judicious surgery to cut away all that could safely be removed, washing the parts as thoroughly as though the entire removal had been accomplished, as referred to under the first heading, and sealing the wound as described.

It will be expected that new cold abscesses will form from the unremoved unhealthy tissue, necessitating reopening, and the probability of this should be placed before the patient, so that at the very first indication of the necessity, the former procedure should be repeated. The relief afforded by a cessation of the annoyances of the sinuses will more than compensate for the possibility of repeating the operation, nor is it certain that repetition will really be necessary.

III. Where the sinuses have their origin in inaccessible deposits—for example, when the bodies of the dorsal vertebræ are involved—it is often clearly impossible to lay open the sinus or reach the sight of deposit, and recourse must, therefore, be had to other but less satisfactory means.

In most of these cases, the sinus only can be considered, and remedial measures must be confined to injections to render the parts thoroughly aseptic. A counter opening, when practicable, greatly facilitates the accomplishment of the desired end—in fact, is often really indispensable. The closure of the sinus may be facilitated by excising as much of the outlet as possible, so as to procure union to a greater depth than by simply closing the skin opening. Both openings being closed, pressure is to be relied upon to close the sac. It is possible that in the attempt to eradicate the bacilli and effects from the sinus that the injected germicide may reach the site of the deposit, and act directly upon the focus, in which case the permanent benefit will be great

—H. A. Wilson.

EARLY RECOGNITION OF INCIPIENT HIP DISEASE IN THE PREVENTION OF DEFORMITY.—The symptoms of incipient hip-joint disease are variable, inasmuch as the progress of the osteitis is always insidious. They are, usually, pain at the knee of corresponding side due to irritation at the hip of filaments of the obturator nerve, limping, night cries occurring in the first two or three hours of sleep. History of traumatism apt to be only co-incident. Signs of rigidity of hip, due mostly to muscular contraction in the instinctive effort of the child to obtain immobilization. In abduction and adduction the external genitalia and anterior superior spinous process of ilium of opposite side move freely with affected leg, showing that the entire pelvis moves. Flexion and extension increase the normal arching of lumbar and dorsal spine. Attempting to place the external malleolus of affected side upon the patella of opposite leg develops the absence of rotation of hip. The effacement of the gluteo-femoral crease simply denotes partial flexion and muscular contraction which also accounts for the flattened buttock. Gentle pressure and manipulation do not increase pain, but blows upon the sole of the foot or upon the flexed knee cause inflamed surfaces in acetabulum to come into forced contact, and severe pain is produced, indicat-

ing that such rough and brutal procedure is capable of doing severe damage, and being unnecessary is unwarranted.

It is important to bear in mind that the tendency of hip disease is to increased destruction of bone, and therefore the arrest of its development and progress is to be sought at the earliest possible moment.

It is better to aim at obtaining ankylosis, for in so doing there will be a freedom from the traumatism of motion, and a rigid joint and a short leg may often thereby be avoided by causing a cessation of the inflammatory action.

It is important to remember that the symptoms and signs of the incipient period of hip disease may often be accounted for by caries of lumbar and dorsal vertebræ, by a sprain of the hip, by reflex irritation, produced by an adherent prepuce in either sex, but never by so-called growing pains.

The early differentiation is essential for the successful termination of the case, and will always depend upon assiduous attention to details. It is always a safe and prudent procedure to treat a case as the most serious the symptoms indicate, and by so doing in hip disease the progress may be arrested. A hasty examination and too favorable prognosis permits the disease to continue in its active progress, forming abscesses and sinuses, so that no one can help making a diagnosis. The time for preventing deformity having passed, attention must be directed to its correction, and this is the time for regret that early recognition had not taken place.—H. A. Wilson.

APPARATUS FOR POTTS' DISEASE.—There are three forms of apparatus in use about which I shall speak :

1. That which is applied to the patient's body below the seat of the disease only.
2. Where a sort of bridging of the diseased portion is attempted. The apparatus supports above as well as below the site of the disease. Here there is a firm foundation and the tissue of the splint prevents the ribs from bending.
3. The third form I believe to be the best and most rational, in that its object is the relief of pressure and immobilization, and it therefore maintains the position of recumbency. First and foremost there is, just as is the formation of any architectural structure, a good foundation. In taking the weight of the head and superstructure away from a caries of the spine, it is necessary to have a good foundation upon which to rest the apparatus and the load it is to carry. This apparatus is one of the forms employed ; it can be made out of leather, felt, steel, or other material, must fit thoroughly and comfortably the hips so as to prevent any slipping. Then, having secured a foundation, a couple of steel bands are used to carry the foundation up to the point where the superstructure can be applied. Then the apparatus is used to lift the weight of the head and shoulders from the diseased parts of the column. By means of a minerva or collar the head and chin rest upon the foundation and not upon the spinal column. A jurymast will accomplish the same thing. It consists of a rod carried over the head with a sling applied so that the same object may be accomplished. Thus various methods may be used, but what I wish is that you should understand the principle and ignore the material of which the apparatus is made. In such apparatuses the position of recumbency is maintained for the reason that the spinal column is allowed to maintain its normal position free from weight. There is also a freedom from mobility. If this position is

accomplished and maintained, you can have a cure just as you can in any other form of tubercular bone disease. Rest and immobility are necessary in all these cases. Osseous recovery in tubercular spinal disease can be secured if the case is treated in the proper manner. Other forms of apparatus adopt the crutch form of support. There the weight rests on the axillæ, and the weight of the shoulders only is taken off. It is wonderful how far you can elevate the shoulders while the head sinks down, showing that the weight of the head is not removed. An immense amount of extension of the shoulders can be made before the weight of the head is removed. One of the most difficult things in the treatment of these cases is the securing of a suitable foundation. You can see how small the pelvis is in a child. If necessary the foundation may be extended down the legs in order to secure firmness. One of the methods often resorted to in the treatment of caries of the spine is the application of the plaster of Paris bandage. Professor Louis Sayre, of New York, has rendered a lasting service by the introduction of the plaster of Paris jacket in this disease. He advocates a jacket which is applied by him with perfect satisfaction in most cases. But the trouble is that the jacket has apparently been looked upon as possessing curative properties in itself, and hence has often not been properly employed. Plaster of Paris of itself I need hardly assure you has no curative effect; it only acts by mechanical action alone. Only last week a profound case of Potts' disease was sent to me in which the jacket was so short and loose that it slipped over the pelvis, and the doctor very ingeniously had applied straps over the shoulders to hold it in position. The weight of the apparatus was six pounds, and this was added to the shoulders already bearing too much weight. I could only account for the use of such a contrivance by thinking that the physician was imbued with the idea that the plaster of Paris must have been curative in itself, it certainly did not exert any beneficial mechanical action. Plaster of Paris as used by Professor Sayre is an entirely different matter from the plaster of Paris as used by a large number of physicians. Professor Sayre first suspends the patient so as to secure the position of recumbency. Then he applies, first of all, a good foundation. He presses in around the waist, and on this applies a proper amount of superstructure, and applies it for mechanical reasons to accomplish a mechanical result. We can apply plaster of Paris to a broken forearm in the same manner as it is often applied to many cases of spinal disease, by merely applying the plaster above the fracture and not below. If the apparatus is only carried to the seat of disease we are apt to overlook the fact that the head is an important factor in the development of the deformity. One of the methods of knowing that your object has been attained is by seeing that the child's symptoms are overcome by your apparatus, and unless this be accomplished you may be sure that its use is harmful, or, at least, is doing no good.—H. A. Wilson.

LATERAL CURVATURE OF THE SPINE.—In rotary lateral curvature of the spine there is a deformity of the thorax, produced by the rotation and resulting deflection of the ribs, which puts the diameters of the chest in very different positions. The ribs are thrown out posteriorly, protruding on one side, while there is a bulging of the opposite side anteriorly. A deformed hip will produce a deformed spine, and this a deformed thorax. Orthopædic surgery is for the prevention, as well as for the correction, of deformities.

The reason that a deforming position may be indulged in by many persons for a more or less prolonged time, without being followed by rotary lateral curvature, is that this position is not persistently maintained, and because the muscles which naturally prevent and correct deformities are all in proper relationship and active.

To produce rotary lateral curvature of the spine, therefore, there must be an enfeebled muscular system, as well as a persistent maintenance of an altered or abnormal relationship between the axes of the hips and shoulders.

I do not feel prepared to condemn corsets or tight lacing because more than three-fourths of all cases of rotary lateral curvature occur in girls, for the reason that there are far more girls without than with scoliosis, and they are all addicted to corsets and more or less improper clothing. But I do most emphatically say that in cases of this deformity, where it is desired that the muscular action should be developed, no clothing should be used which restricts in the slightest degree the full natural play of muscles.

The mother of the patient will at first complain most bitterly of the impossibility of holding the back up, and refer to the backache—all of which is evidence against, rather than in favor of, the use of the corset. The relief from these disagreeable features may be expected just as soon as the muscles which were made to hold up the spine are acting as they undoubtedly were intended.

For precisely the same reason, let me deprecate the use of any kind of brace or support in the early stages of this deformity. If you are, as I wish you to be, convinced that muscular action is the principal factor in the prevention, and as well in the correction, of the beginning curvature, permit nothing whatever to compromise the efficient and judicious development. There are scattering cases where a modified plan of procedure is required, but I am to-day alluding to the average or typical cases, believing that if you fully appreciate the principles, you will readily apply them to the needs of individual cases.

I deprecate the rest plan of treatment, either prone or supine, because I believe that the girl's system does not require increased feebleness, but increased strength, to resist the progress of the deformity. The deformity has been produced by constitutional debility, and the best method of overcoming that is by judicious exercise, made applicable to the special needs of the patient's condition.

The application of mechano-therapy, or applied gymnastics, to the treatment of rotary lateral curvature, is too large a subject for me to do more than broach in the few remaining minutes. Let me say, that your prescription of exercise should be given with the same care and judgment that you would prescribe any other powerful remedial agent, remembering that harm and serious damage may be done by improper use, and great benefit derived from a skilful application.

How are we going to go about judging the extent of the lateral curvature? The method adopted in the study of a case here is as follows: The seventh cervical vertebra is a very important point to bear in mind in determining the deformity, because it is a decided landmark, easily recognized. We mark this with a blue pencil, and from this run a line down to the middle point of the sacrum, touching each point over the spinous processes with the pencil. If the column is straight, every prominence of the vertebrae will be in the line of the string. If I draw a line at right angles to this, at the point of the apices of the

scapulæ, they should be on a level. Again, taking the acromion processes, and holding a string across the back, at right angles to the line of spinous processes, I find in normal cases that they are upon a level. Another way of corroborating the condition is to suspend plumb lines of equal length from each shoulder, and note how near the weights come to the floor on each side. A strip of sheet lead may be used for the purpose of learning the curve of the spine. Starting at the seventh cervical vertebra, and bending it with the fingers to make it correspond to the curve of the spinous processes, and tracing down the back, I am able to get the curvature of the back. Laying this on a sheet of white paper, I mark the curve by means of a pencil. This is sufficiently accurate for all points of clinical recording. I might go farther and mark on the line the point of each vertebra, but this is usually unnecessary. I can mark this curve on paper with different colors, and thus record the condition of the curves at the time of each of the subsequent measurements. There is a still more satisfactory way of recording the condition of the spine, and that is by means of photography, for it clearly and accurately shows the depression of the scapulæ, the prominence of the vertebræ, and the depression of the ribs, and every detail of what I term "expression" of the deformity.

It is my experience that photography is invaluable in the study and accurate record of cases of deformity, and especially that form whereby the flash-light is available. It is applicable to the privacy of one's office, and thereby avoids the exposure of the patient to other eyes than those of her medical adviser.

—H. A. Wilson.

TUBERCULAR SYNOVITIS OF KNEE.—Two years ago he came here with an excessively painful joint, which was very much inflamed and red. He gave the history of a traumatism at the age of two years, or five years, before I first saw the boy. During the past two years while he has been under our care, he has been treated by absolute rest, and later he has been wearing a steel apparatus, which limits the action at the knee-joint. To-day I show you one of the most happy results of tubercular synovitis. The head of the tibia and the condyles are enlarged, the patella is movable. The motion in the joint is good, and the patient can use it freely without much difficulty. You will notice how he protects the weaker member as he stands. This boy shows what can be accomplished by careful attention and proper treatment in these tubercular cases. The rest must be maintained for weeks and months or years even, and as a result free natural use of the joint may be obtained, and not an ankylosis. The disease has subsided here without any accumulation of pus with external opening, with no destruction of the articular surfaces, and with free motion of the joint. As a matter of interest I want to measure the difference in the size of the calves; I find it is only an inch. The extent to which we can get motion here is from beyond a right angle to a straight line, without any restraint whatever. The patella moves very freely, and there is no grating indicative of inflammatory action or exposed bone surfaces. Every case of tubercular disease may so result if the natural function of the joint is preserved, and absolute immobilization resorted to. Remember that his knee has been rigidly fixed for two years, and yet there is present perfect freedom of motion. Remember well this case when you fear ankylosis from disuse, and you will not hesitate to keep a joint free from motion as long as there is ostitis present.

—H. A. Wilson.

SPASMODIC TORTICOLLIS.—After two weeks of medical treatment, during which morphine and a mixture of hyoscyamus, conium and cannabis indica, pushed to their full narcotic effect, were the only drugs which appeared of the slightest benefit, resection of the spinal accessory nerve was decided upon.

Operation, October 3, under the usual antiseptic precautions. An incision two and a half inches long was made down upon the anterior border of the right sterno mastoid, beginning half an inch below the mastoid process. The integument and fasciæ were successively divided, care being taken throughout the operation to closely hug the muscle as a guide. After dividing the platysma and deep cervical fascia, the dissection was continued beneath the sterno-mastoid, and the spinal accessory found at the point where it pierces the under surface of the muscle. The nerve, normal in appearance, was caught on a tenaculum and dissected up to near where it emerges beneath the posterior belly of the digastric, lying to the outer side of the internal jugular vein, which was plainly exposed at the bottom of the wound. A full inch was excised, and the operation completed by providing for drainage at the lower angle of the wound, closing with catgut sutures and applying a firm dressing. There was no troublesome hemorrhage and no especial difficulty in finding the nerve.

As the patient came out of anæsthesia there was not any recurrence of spasm in the muscles supplied by the spinal accessory, but the head remained deflected to the left, and occasional slight twitchings of the left shoulder were observed. The head was more movable, and when held in corrected position there was much less tendency to deviate than before the operation. Increased resistance was felt at the back of the neck on the left side, and the splenius capitis could be felt as a hard roll beneath the anterior border of the left trapezius. On account of this rigidity and the convulsive twitching of the left shoulder it was feared that the condition might become as bad as before the operation, and that the result might be merely the shifting of the disease to another group of muscles. At the beginning of the operation the spasm seemed to be limited entirely to the distribution of the right spinal accessory; it was now apparent that the deeper rotators of the head were involved as well. As a precaution the patient was kept for several days under the influence of morphine by local injections in the substance of the splenius.

The wound healed kindly, and there was a marked improvement in all the symptoms, but not the immediate and complete relief which had been hoped for.—Shively, *Inter. Jour. Surgery*.

ALCOHOL AS A FOOD.—One of the most absurd arguments in favor of the use of alcohol is that it is a true food. We say this argument is absurd, for, if true, it is not in any sense a defense of the common use of the drug. Alcohol, even if a food, offers no advantages over other foods; moreover, it is quite too expensive to afford a substitute for other foods; a bushel of wheat, for example, which costs less than half as much as a gallon of alcohol, would prove, on analysis, to contain at least three or four times the nutritive value of alcohol, even admitting the drug to be a pure nutrient. When taken into the system, alcohol undergoes some chemical changes, but this is true of almost every substance. Alcohol lessens oxidation, and this has led to the claim that it lessens the tissue-wastes, and so, while not exactly a food in a positive sense, is, in a negative or indirect way, a supporter of the system. But this is also true of

strychnine, and a variety of other poisonous substances. Does this fact constitute strychnine a food? Certainly not. Hence the argument cannot be allowed as holding good in relation to alcohol. Dr. Brunton, who attempts to prop up the popular fallacy respecting the food value of alcohol, says of the influence of it upon temperature:

The action of alcohol upon the temperature seems to depend upon two factors. One of these is its power of lessening oxidation, but this only comes into consideration with large doses, when this factor may aid considerably in reducing the temperature. The other factor is the dilatation of the vessels on the surface, which occurs even after moderate doses. This dilatation allows the warm blood from the interior of the body to circulate more readily near the surface, and thus subjects it to the cooling influence of the surrounding air, and also to the cooling effect of evaporation from the skin. By increasing the sweat, it may lessen the temperature of the body, even when that of the surrounding air is as high or higher than it, and it will also cool the blood by freer radiation when the temperature of the atmosphere is below that of the body. It is evident that the cooling effects of alcohol will thus depend to a great extent on the atmospheric conditions of temperature and moisture to which the person taking it is subjected, as well as on the quantity of alcohol. Normally, when a person is subjected to cold, the vessels of the skin contract and prevent the warm blood in the interior of the body from approaching the surface and thus becoming cooled; but when large quantities of alcohol are taken, this mechanism becomes paralyzed, the blood from the interior circulates over the surface, and is cooled down more and more until its temperature becomes so much reduced as to be incompatible with life, and the patient is frozen to death. The dangerous effects of alcohol under such circumstances are well known to the lumberers in Canada and to Arctic voyagers, who dread alcohol and generally avoid it altogether.

The utility of this self-same action of alcohol is very evident when a person comes from a cold atmosphere into a warm room; for here the individual may still remain cold although in front of a fire, as the contraction of the surface vessels still continues, and the blood is no longer able to convey warmth to the interior, just as it was formerly unable to convey the cold. If alcohol be now taken and the vessels dilated, the blood is allowed to circulate in the surface, soon becomes warm, and thus diffuses the warmth equally through the body.

The above is a very excellent argument against the theory that alcohol is a useful food. Proper foods are of service to the body as a means of maintaining the necessary degree of heat, but as Dr. Brunton clearly shows, alcohol causes a waste of heat, and to such a degree as to render its use absolutely dangerous under conditions when the bodily heat must be economized. Dr. Brunton has shown that the use of alcohol lessens the temperature of the body "even when that of the surrounding air is as high or higher than it." It thus appears that the use of alcohol would be detrimental, even under the circumstances recommended by Dr. Brunton, unless the person should place himself in air of a very elevated temperature.

The absurdity of Dr. Brunton's reasoning must be at once apparent.—*Bacteriological World*.

INHALATION OF OXYGEN IN OBSTETRICS.—Rivière (*Nouv. Arch. d'Obstét. et de Gynéc.*, April 25,

1892) has found, as the result of much experience, that inhalations of oxygen are of value under many circumstances, both for mother and child. Thus inhalation is serviceable in counteracting the evil effects of chronic or acute thoracic diseases during pregnancy, which so often cause abortion or premature delivery. In uncontrollable vomiting and anorexia, inhalations are also useful. After delivery, inhalations superoxidize the blood, which appears to enable that fluid to resist sepsis. When a pregnant woman is ill or weak, inhalations always profit the foetus, whose nutrition is thereby improved. Rivière goes so far as to contend that the method is of service in placental disease, or even in partial detachment of the placenta; it allows, he believes, more complete oxidation of the foetal blood in the diminished area of sound placenta that remains. Altogether, however, he admits that inhalations are of more certain benefit for new-born children, whether they be emaciated from some cause which existed before birth, or continue to be thin for some period after delivery, owing to malnutrition.

TREATMENT OF PLEURISY.—Pleurisy is a disease which arises under various conditions, which, to some extent, determine its treatment. The limited time at my disposal prevents my particularizing the modification of treatment requisite for all the various kinds of pleurisy arranged on an etiological basis; nor can I suggest any classification of pleurisies on such a basis which would not involve much difference of opinion.

The differentiation of pleurisies into primary and secondary is not accepted by all authorities. There are those who doubt if inflammation of the pleural membrane is ever a primary condition, and hold that that membrane enjoys the same immunity from idiopathic inflammation as do other serous membranes, as the peritoneum and pericardium.

There is now, I believe, a general consensus of opinion that in most cases of pleurisy the disorder is a secondary one—secondary to disease of some neighboring organ or adjoining part, or to some dyscrasic condition of the blood. Besides, in view of treatment, I think that a pathological differentiation of pleurisies is even better than an etiological one. Often in secondary pleurisy we have to commence treatment while in the dark as to its primary cause. I shall, therefore, for the purpose of this address, speak of pleurisy as being of three kinds:

1. Dry pleurisy, where there is little or no effusion into the pleural sac.
2. Effusive pleurisy, where there is effusion which is fibroserous and clear.
3. Empyema, where there is purulent effusion.

Dry pleurisy often does not give rise to symptoms which lead to its recognition, and cohesion of the two layers of the pleural membrane is the only post-mortem evidence of its pre-existence. It is admittedly a secondary affection. In lung disease pain is probably always an expression of pleurisy, which is often overshadowed by the substantive disease, and escapes treatment. Dry pleurisy in lung diseases, by sealing the lung to the chest wall, may prevent any escape of morbid products from the lung into the pleural sac, to the well being of the individual. In dry pleurisy, pain is, in most cases, the symptom which leads to its diagnosis and most calls for help. Our present treatment of dry pleurisy differs from that of former times chiefly in our having given up heroic remedies. The disease being a conservative one, we must not, I think, be too busy with our curative agents—we may safely trust largely to rest in bed.

For the relief of pain we have discarded the lancet, and rely on a hot poultice or a few leeches locally, or, still better—where there is no contra-indication to the drug—a dose of opium.

Effusive pleurisy usually sets in with definite symptoms; its pyrexia is accompanied by an outpouring of fluid into the pleural sac, and it is the accumulation of this fluid which causes all our anxiety; without it there would be no danger to life, either from the immediate or remote effects of pleurisy; without it pleurisy would be a disease of short duration.

The question here arises, Can we, by treatment, prevent effusion in a pleurisy which, without treatment, would be effusive? I think not. With this object in view, resort has been had to bleeding, blistering, poultices, purgatives, diuretics, diaphoretics, mercury, opium, aconite, quinine, and the more specific antipyretics, but, as far as my experience goes, without avail. I am ready to admit that, in some cases of acute pleurisy, as in most acute inflammatory affections, a calomel purge at the onset does good by freeing the secretions and lowering arterial tension, and I have sometimes thought that in the early stage of acute pleurisy I have seen the severity and duration of the febrile stage modified by a few small doses of calomel and opium, but I have never been able to satisfy myself that any method of treatment has prevented effusion. Then comes the question, Have we any means of promoting the natural absorption of the effusion? Beyond keeping our patient in bed, and improving the general health, I think we have not. Blisters, iodine applications, dry diet, diaphoretics, mercury, and especially diuretics, have long enjoyed—I consider undeservedly—a great repute for this purpose. Diuretics are, in my opinion, absolutely useless, and, worse than that, are harmful. As commonly prescribed, they do not produce diuresis, but they always lower the vitality of the individual.

We can now, with impunity, artificially remove the effusion by aspiration or siphonage. The exact time when such operative procedure should be practised will, for some time to come, be an unsolved problem. Aspiration and siphonage are used for the same purpose, namely, the extraction of fluid from the chest without the admission of air. The siphon has the advantages of exerting little force and of removing the fluid very gradually; but, on the other hand, the aspirator not infrequently succeeds in extracting fluid when the siphon fails. For aspiration or siphonage I always use a trocar and cannula; for the latter operation I employ a No. 7 French gauge; for the former, a smaller one, No. 6 French gauge; but before resorting to either method, I always satisfy myself by an exploring syringe that there is fluid at the spot for operation, and, when I can choose the spot, I select the ninth interspace at the back, below the angle of the scapula.

It may be said that we practice aspiration for four objects. One being the prevention or relief of urgent symptoms, to prevent death from the effects of the pressure of rapid and excessive effusion. Many are the laws which have been laid down as to the time for operating under these circumstances; some have been founded on the extent of the fluid dullness, some on the quantity of the fluid in the chest, some on the amount of the displacement of the heart, others on symptoms themselves of which dyspnoea and lividity are always the most prominent ones, and are due—for the most part at least—to the pressures of the effusion on the heart and its large vessels. The extent of fluid dullness may be great, even up to the clavicle, and yet, provided the patient be kept in bed, need cause

no anxiety; whereas, with a much smaller extent of fluid dullness, there may be alarming symptoms. The amount of fluid in the chest must always at best be but a speculation. There may be danger without much displacement of the heart; the most reliable guide to my mind is the symptom dyspnoea. Dyspnoea gives timely warning of danger, and when it assumes the form of orthopnoea, delay in the removal of some fluid is dangerous. At one operation I generally remove about two pints of fluid, unless—before that amount has been extracted—troublesome cough or cardiac distress supervene, or unless the fluid, at first clear, should become decidedly bloody. These are indications for desisting from aspiration.

Our second object in aspiration is to shorten the duration of the disease. No one will dispute that in many cases of pleuritic effusion the fluid will entirely disappear, and the patient will get well if kept in bed without special treatment in the course of six weeks. But if we can by aspiration do in twenty minutes what the natural process of absorption sometimes takes as many days to effect, surely by a harmless and trifling operation we are bound to save our patients weeks of illness. But more than that, we never can tell till late in the case—and sometimes till too late—whether the fluid will be removed by absorption in a few weeks or whether it will be absorbed at all. The question here arises, When should we operate for the object now under consideration? My answer is, Not until the febrile movement has ceased, unless that movement should continue more than a fortnight.

In 1873, Dr. Castiaux, a Parisian practitioner, advocated the removal of as much fluid as possible as soon as it is detected. He urged that the earlier and the more complete its removal the less likelihood there was of its recurrence; and, more than that, he maintained that its removal extinguished the initial fever and ended the disease. Moutard Martin and others supported him in these views. My experience does not enable me to go all the way with Castiaux. By operating in the early stage of the fever, I have found the pyrexia never extinguished and rarely reduced, and re-accumulation of fluid universal. I have, however, seen cessation of the fever on aspirating when the febrile stage has been unusually prolonged, and I have several times used the operation for this purpose successfully. There is no doubt in my mind that when the febrile stage is over, the sooner the fluid is removed the less likely it is to re-accumulate and the more rapid the recovery of the patient. For our present object I withdraw as much fluid as I can, desisting, however, if troublesome cough, cardiac distress, or faintness should supervene, or if the fluid, at first clear, should become decidedly blood-stained. If further aspirations are required, I allow an interval of three days between them. Operating on the fall of the fever, more than a second aspiration is rarely requisite; one frequently suffices. Often after aspiration, dullness on percussion at the back has led me to think that there was re-accumulation of fluid, when the exploring needle proved that such was not the case.

Our third object in artificial removal of fluid is to prevent a pleuritic effusion from becoming chronic. Chronic pleuritic effusion, which I define as a pleuritic effusion which, in spite of treatment, persists for three or four months, is a grave disorder, more so, to my mind, than empyema; repeated aspirations are followed by repeated re-accumulations. The patients, broken hearted, go from doctor to doctor, from hospital to hospital; some get well in the long run, but the run is a very long one; some die of phthisis; in

some the effusion becomes purulent; in some the effusion is permanent. Some of my cases have gone from my observation uncured. One man recently under my care, who had had pleuritic effusion for four months, and had been submitted to treatment (short of aspiration), was cured in three months by rest in bed, a generous diet, tonics, and repeated aspirations. It seems to me probable that, as time goes on, we shall treat these cases as we do empyema, by pleurotomy.

Chronic pleuritic effusion is, I believe, generally the result of allowing those who have had acute effusive pleurisy to walk about before the fluid has entirely disappeared. Fluid in the pleural cavity is always slow to go, and often remains stationary for an indefinite length of time if the patient is walking about; and it is difficult to impress upon those who are getting well of acute effusive pleurisy, when the fever has subsided and they feel well, the importance of staying in bed until the fluid is quite gone.

Our fourth object in aspiration is to obviate the possibility of the collapsed lung becoming inexpandible, clear pleuritic fluid remaining in the chest a long time, but a period of time varying in different cases may, like empyema, cause the lung to become permanently incapable of expansion. In one such case under my care, from the history it was judged that the chest had been full of fluid only six weeks. Such an effect in so short a time is, however, exceptional in pleuritic effusion where the fluid is fibrinous. Such cases are incurable; aspiration converts them into empyemata.

While effusive pleurisy usually sets in with definite symptoms, there is a kind which has been called latent pleurisy in which, when a patient first comes under observation, the chest is full of fluid. In such a case the pain and initial fever not being severe fail to attract the patient's attention to the chest, and it is only when the effusion causes dyspnoea on exertion that medical aid is sought. Latent pleurisy is, in my opinion, very different from chronic pleurisy. The effusion in latent pleurisy will generally disappear in a few weeks if the patient be kept in bed, and by aspiration the cure may be effected in a much shorter time.

Pleuritic effusion is often found in women in the puerperal state, and for months after parturition. It is readily cured by aspiration, but not infrequently two or three operations are required. I do not here refer to the pleuritic effusion which is part of puerperal fever where the fluid is sometimes pus, and has to be treated accordingly. Pleuritic effusion in acute rheumatism is rapidly absorbed, and seldom requires artificial removal save in bad cases for the relief of urgent symptoms. The effusion of chronic Bright's disease is liable to return after removal; aspiration gives but temporary relief.

The effusion of early phthisis is very amenable to aspiration, but in that of advanced phthisis the advantage of operative interference is very questionable. We frequently find pleuritic effusion in persons with a hereditary tendency to phthisis, but without any physical signs of that disease in the chest. Early aspiration cures such cases rapidly and completely. Let me cite a case:

A man, aged twenty-seven, of very consumptive appearance, came to me with fluid in his left chest. He had been ill three weeks. His father died of consumption; he alone remained of a family of seven, the others having died of consumption. I aspirated off three pints of fluid. Eight days after the operation, I explored the chest in several places without

tapping fluid; he was practically well. I saw him six months afterwards; he was in rude health, stronger than he had been for years previous to this illness. Such a case is by no means of uncommon occurrence. As to the primary cause of pleurisy in such a case, I must confess I am at present in the dark, though the balance of probabilities seems to me to point to a crop of tubercles in the pleural membrane.

I shall not detain you long with the treatment of empyema; here drugs and aspiration are powerless—pleurotomy is all-powerful. There are cases on record of recovery when the disease has been left to Nature, where the pus has remained permanently as a cheesy or calcareous mass in the pleural sac, where the pus has escaped by a self-made opening through the chest wall or the lung. The literature of the subject contains instances of cures by aspiration, by single or repeated use of the trocar and canula, but all these are exceptional cases, and may be regarded as curiosities.

When it is known that pus is in the chest, the sooner it is let out by free incision, the more rapid, the more complete, the more certain the recovery. But besides and beyond this, early operation diminishes the risk of the lung becoming permanently inexpandible; in other words, it lessens the probability of a curable case becoming an incurable one.

Our suspicions of empyema may be raised at the onset of a pleurisy; rigors, excessive and long continued pain, a temperature above 102° F., the association of the pleurisy with catarrhal pneumonia, or acute nephritis, or scarlet fever, or septicæmia, fluid in the chest of a young child, point to empyema. Our suspicions are crystallized into a conviction by the supervention of hectic, or perhaps more properly, of septic fever. The exploring syringe, without risk and with little discomfort to the patient, can at any moment set all our doubts at rest.

An aspiration as a preliminary to pleurotomy has been advocated in view of the more gradual expansion of the lung and its partial adhesion to the chest wall before air enters the incised chest. But one is often balked in aspiration or siphonage by the plugging of the cannula by caseous coagula. If this method be adopted I think the interval between the two operations should not exceed three days, for about that time a septic condition generally develops. I have more than once resorted to this plan when the pleural sac was very full of pus, but my experience on the matter is too small to be of any value.

And now a word about pleurotomy. When I can select the spot for the operation, when pus is not encapsuled, and when the lung is not adherent in places to the chest wall, I get the surgeon to make a single incision in the ninth interspace at the back below the angle of the scapula; but before he does so I always, without exception, prove by the exploring syringe that there is pus at that spot. Such a procedure may save wounding the lung or the diaphragm if these should have become adherent to the chest wall in that region. When the chest has been opened what is wanted is some means which would permit the outflow of pus and prevent the ingress of air into the chest, both at the time of the operation and afterwards. After the operation by the usual method the ordinary dressings act in this way, but to a very limited extent. Recently I have adopted a plan which I will now briefly describe. As soon as the chest has been incised and the pus begins to flow, and before air begins to enter the chest, I place over the opening a piece of oil-silk, eight inches square; this acts as a

valve and allows the pus to escape from under it, and admits no air. When the flow of pus has ceased, even on coughing, I place a layer of cotton wool over the oil silk and fix it with an elastic bandage. This method does not prevent the use of a drainage tube, protected by a safety pin.

In dressing the case the following day, a fresh piece of oil-silk may be slid under the old one. If, on the patient's coughing, there should be no discharge from the opening, or from the drainage tube (if one be used) the patient should be urged to stop breathing, the oil-silk and drainage tube should be quickly removed, the incision should be rapidly reopened with dressing forceps, and the oil-silk instantaneously re-applied.

Recoveries under this plan have been rapid. I think that if air can be excluded for twelve hours after the operation, and only a limited amount enters during the dressing, and none between the dressings, there is every inducement to the lung to expand; whereas, if air goes freely in and out of the chest by the incision, as in the ordinary method, there is no encouragement to the lung to expand. If the lung cannot expand, my method and all methods are of no avail. I would here remark that while fluid is continuously flowing out from the pleural sac, no air enters.

If, after the chest has been opened for empyema, the lung cannot expand, the condition of things is most grave, the life of the individual is not worth more than two years' purchase. A patient with pyopneumothorax, an inexpandible lung, and a thoracic fistula may walk about, and even improve in general health; but, as time goes on, ulceration of the surface of the lung by irritation sets up phthisis, and it may be said to be a contest between phthisis and albuminoid disease as to which shall destroy life. With such conditions, unless the pleural cavity can be entirely obliterated, a fatal issue is inevitable. In young children this is possible by displacement upwards of the diaphragm and abdominal viscera, and by a falling in of the chest wall which is pliable, and by granulation tissue; but in the adult with rigid walls this favorable result is not attainable. By Estlander's operation of removing ribs the cavity may be greatly diminished, and cases are on record where it has been obliterated and a cure the result; but, as far as my observations have gone, the future of this operation is not full of promise.

Can we, I would ask, in a case of empyema, prevent the lung from becoming inexpandible, and thereby reduce the mortality of the disease? I think we can. The inexpandibility of the lung is due to the postponement of pleurotomy, and would be obviated were that operation performed before the lung had become coated and bound down by false membranes.

—Rickards, in *Brit. Med. Jour.*

NEW YORK HOSPITALS FORMULARY (from *The Prescription*).—

"Mixed Treatment, Taylor" (*Bureau O. D. P.*):

R.—Hydrargyri biniodidi..... gr. ss.
Potassii iodidi..... ʒij.
Syr. sarsaparillæ comp.,
Aque..... āā f ʒij.

Dissolve and mix.

Dose.—A teaspoonful.

—Dr. R. W. Taylor.

Syrupus Hydrargyri Biniodidi (*Bureau O. D. P.*):

R.—Hydrargyri biniodidi..... gr. iss.
Potassii iodidi..... gr. lxxx.
Syrupi..... f ʒij.

Dissolve and mix.

Dose.—A teaspoonful.

—Dr. E. A. Banks.

Diuretic Mixture (*Char. Hosp.*):

R.—Acidi benzoici..... gr. cxx.
Morphinæ sulphatis..... gr. j.
Ext. buchu fl.,
Spir. juniperi comp..... āā f ʒij.

Dissolve and mix.

Dose.—A teaspoonful in water.

—Dr. Alex. Stein.

Incontinence Mixture (*Char. Hosp.*):

R.—Sodii benzoatis,
Sodii salicylatis..... āā gr. xxx-lx.
Ext. belladonæ fl..... gutt. ij.
Aque cinnamomi..... f ʒiv.

Dissolve and mix.

Dose.—A teaspoonful four or five times daily. For incontinence of urine in children.

—Dr. J. Blake White.

Haustus Diureticus (*Char. Hosp.*)—*Diuretic Drink*:

R.—Potassii acetatis..... ʒj.
Spir. ætheris nitrosi..... f ʒj.
Infusi digitalis..... f ʒiv.
Glycerini..... f ʒij.
Aque..... q. s. ad f ʒviii.

Dissolve and mix.

Dose.—A tablespoonful.

Mistura Buchu (*Bureau O. D. P.*):

R.—Ext. buchu fl.,
Tinct. hyoscyami..... āā f ʒij.
Liquoris potassæ..... ℥xc.
Aque menthæ pip..... q. s. ad f ʒij.

Mix.

Dose.—A teaspoonful.

Mistura Diuretica. I. (*Bell. Hosp.*):

R.—Spir. ætheris nitrosi..... f ʒiss.
Tinct. ferri chloridi,
Tinct. nucis vomicæ..... āā f ʒj.
Syrupi..... f ʒij.

Mix.

Dose.—Two teaspoonfuls.

—Dr. W. H. Thomson.

Mistura Diuretica. II. (*Bell. Hosp.*):

R.—Potassii acetatis..... gr. ccc.
Infusi digitalis..... f ʒviii.

Dissolve and mix.

Dose.—A tablespoonful.

Mistura Buchu Composita (*Bureau O. D. P.*):

R.—Ext. buchu fl..... f ʒiv.
Tinct. hyoscyami..... f ʒij.
Potassii acetatis..... ʒj.
Syrupi zingiberis..... f ʒj.
Aque..... q. s. ad f ʒiv.

Dissolve and mix.

Dose.—A tablespoonful, in water, every four hours. In catarrhal cystitis.

—Dr. W. B. Anderson.

Mistura Digitalis et Scoparii (*Bell. Hosp.*)—"Special Diuretic":

R.—Potassii acetatis..... ʒv.
Spir. ætheris nitrosi..... f ʒiv.
Infusi digitalis..... f ʒij.
Infusi scoparii..... q. s. ad f ʒxvj.

Dissolve and mix.

Dose.—A tablespoonful.

Mistura Diuretica (*Char. Hosp.*)—"A-B-C Diuretic":

R.—Potassii acetatis,
Potassii bicarbonatis,
Potassii citratis..... āā ʒj.
Infusi tritici rep..... q. s. ad f ʒiv.

Dissolve and mix.

Dose.—A tablespoonful.

—Dr. R. Guiteras.

Mistura Gelsemi Composita (Char. Hosp.):

R.—Tinct. gelsemii f 3ij.
 Ext. fabianæ [Pichi] fl. f 3iv.
 Syrupi acaciæ f 3j.
 Aquæ aurantii flor. q. s. ad f 3iv.

Dissolve.

Dose.—A teaspoonful every four hours. For irritable bladder, attended with frequent urination, especially in women.

—Dr. J. Blake White.

Mistura pro Cystitide, "Polk" (Bell. Hosp.)—"Cystitis Mixture, Polk.:"

R.—Potassii bicarbonatis 3j.
 Tinct. hyoscyami f 3j.
 Infusi buchu q. s. ad 3vj.

Dissolve and mix.

Dose.—A tablespoonful.

—Dr. W. M. Polk.

Mistura pro Cystitide (Bell. Hosp.)—"Cystitis Mixture.:"

R.—Liquoris potassæ f 3j.
 Mucilag. acaciæ f 3iv.
 Tinct. hyoscyami q. s. ad f 3ij.

Mix.

Dose.—A teaspoonful.

Mistura Tritici Repentis (Bell. Hosp.):

R.—Potassii acetatis gr. lxxx.
 Infusi tritici rep.,
 Aquæ āā f 3iv.

Dissolve and mix.

Dose.—A tablespoonful.

Emulsio Oleo Morrhue:

R.—Olei morrhue f 3viii.
 Mucilag. chondri (N. F.) f 3v.
 Syrupi tolutani f 3ij.
 Olei gaultheriæ,
 Olei sassafras āā 3xv.
 Aquæ q. s. ad f 3xvj.

Pour the mucilage of Irish moss into a suitable bottle; add the cod-liver oil in divided portions, shaking well after each addition, and, when a perfect emulsion is formed, add the syrup of tolu and oils, and lastly enough water to make 16 fluid ounces. Finally mix the whole thoroughly together.

Note.—The above method of making emulsion of cod-liver oil is very expeditious. For other methods consult the *National Formulary*. Mucilage of Irish moss is prepared as follows:

Irish moss, 360 grains.
 Water, enough to make 30 fluidounces.

Wash the Irish moss with cold water, then place it in a suitable vessel, add 30 fluidounces of water and heat it, on a boiling water bath, for fifteen minutes, frequently stirring. Then strain it through muslin, and pass enough water through the strainer to make the liquid, when cold, measure 30 fluidounces.

The mucilage should be freshly prepared when required for use. It may, however, be kept on hand, if it is poured, while hot, into bottles, which should be filled to the neck, and a layer of olive oil poured on the surface. When the mucilage is wanted for use, this layer is removed by means of absorbent cotton.

The flavoring ingredients, in this or any other emulsion, may be altered according to taste. The following combinations will be found suitable, each being intended for 1 pint of finished emulsion:

1. Oil of gaultheria, 30 min.
2. Oil of gaultheria, 15 min.
 Oil of sassafras, 15 min.
3. Oil of gaultheria, 15 min.
 Oil of bitter almond, 2 min.
 Oil of coriander, 2 min.
4. Oil of gaultheria, 20 min.
 Oil of bitter almond, 20 min.

Emulsio Olei Morrhue cum Calce. I. (Bell. & Char. Hosp.):

R.—Olei morrhue,
 Liquoris calcis āā f 3viii.
 Olei cinnamomi 3x.

Mix.

Dose.—A tablespoonful.

Note.—Lime water produces a lime soap with fixed oils. Though this is no emulsion, it is called so for convenience.

Emulsio Olei Morrhue cum Calce. II. (Bureau O. D. P.):

R.—Olei morrhue f 3ij.
 Lioquoris calcis f 3iss.
 Syr. calcii lacto-phosph. f 3ss.

Mix.

Dose.—A teaspoonful.

—Dr. G. H. Bosley.

Emulsio Olei Morrhue pro Infantibus (Bell. Hosp.):

R.—Olei morrhue,
 Liquoris calcis āā f 3v.
 Mucilag. acaciæ f 3iv.
 Syrupi hypophosphitum f 3ij.
 Olei cinnamomi 3xxx.

Mix.

Dose.—A teaspoonful.

Emulsio Olei Ricini:

R.—Olei ricini f 3v.
 Mucilag. chondri f 3v.
 Tincturæ vanillæ 3clxxx.
 Syrupi f 3ij.
 Aquæ q. s. ad f 3xvj.

To the mucilage of Irish moss contained in a suitable bottle add the castor oil in divided portion, agitating each time until the last added portion has been emulsified. Then add the tincture of vanilla, the syrup, and enough water to make 16 fluidounces. Finally, mix the whole thoroughly together.

Note.—Spirit of cinnamon is prepared by dissolving 1 volume of oil of cinnamon in 9 volumes of alcohol.

Emulsio Olei Terebinthinæ:

R.—Olei terebinthinæ f 3ss.
 Acaciæ pulv. 3ij.
 Olei menthæ pip. gtt. v.
 Syrupi 3j.
 Aquæ q. s. ad f 3iv.

Pour the oil of turpentine into a clean and perfectly dry 4 ounce vial, and shake it about so that the whole interior surface may be wet by the oil. Then add the acacia and shake again. Next add the oil of peppermint, the syrup, and, lastly, enough water to make 4 fluidounces, and mix by agitation.

Note.—On standing, this mixture will separate. It may be restored by shaking.

Mistura Olei Morrhue (Bureau O. D. P.):

R.—Olei morrhue f 3xvj.
 Liquoris potassæ f 3iiss.
 Mellis f 3ij.
 Acaciæ pulv. 3j.
 Olei anisi gtt. xx.
 Olei menthæ viridis gtt. xvij.

Mix.

Dose.—A tablespoonful.

—Dr. G. S. Winston.

Elixir Ammonii Valerianatis:

R.—Ammonii valerianatis gr. cclvj.
 Chloroformi purificati 3vj.
 Tinct. vanillæ f 3ij.
 Aquæ ammoniæ, q. s.
 Tinct. persionis comp. f 3ij.
 Elixir aromatici q. s. ad f 3xvj.

Mix.

Each fluidrachm contains 2 grains of valerianate of ammonium.

Note.—This and the following elixirs will be furnished by the General Drug Department, if required. Most of them are prepared after the *National Formulary*.

Elixir Aromaticum—Aromatic Elixir :

R.—Spiritus aromatici f 3vij.
Syrupi,
Aque aa f 3xij.

Mix the aromatic spirit with the syrup; then add the water. Add 1 ounce of purified talcum, mix thoroughly, and filter through a wetted filter.

Note.—Spiritus aromaticus is a solution of the oils of bitter orange, lemon, coriander and staranise in deodorized alcohol.

Elixir Glycyrrhizæ—Elixir of Liquorice :

R.—Ext. glycyrrhizæ depur. 3j.
Aque ammoniæ, q. s.
Elixir aromatici q. s. ad f 3xvj.

Triturate the purified extract of liquorice with 12 fluidounces of aromatic elixir, gradually added. To 10 fluidounces of this mixture add water of ammonia in drops until it is in slight excess. Mix this with the reserved portion, and finally add enough aromatic elixir to make 16 fluidounces. Filter, if necessary.

Note.—This elixir is used as a vehicle for bitter medicines. It is not as good a vehicle for quinine or its salts, as the elixir taraxaci compositum.

Elixir Cinchonæ et Ferri—Elixir of Calisaya and Iron :

R.—Ferri phosphatis (U. S. P. '80)..... gr. cclvj.
Acidi citrici gr. v.
Aque bullientis f 3j.
Elixir quiniæ comp. q. s. ad f 3xvj.

Dissolve and mix.

Dose.—1 fluidrachm.

Note.—The elixir quinine comp. is an "elixir of calisaya" not prepared from cinchona bark, but from an equivalent quantity of the principal alkaloids contained therein.

Elixir Opii, McMunn—McMunn's Elixir of Opium.

—In place of this proprietary article, the official tinctura opii deodorata should be used. The latter is supplied by the General Drug Department of standard strength, containing 6 grains of morphine in each fluidounce, equivalent to about 7.5 grains of sulphate of morphine.

Elixir Phosphori :

R.—Spiritus phosphori f 3xxx.
Olei anisi (stellati)..... m xvj.
Glycerini f 3ix.
Elixir aromatici q. s. ad f 3xvj.

Mix.

Each fluidrachm contains $\frac{1}{8}$ grain of phosphorus.

Note.—Spiritus phosphori is a solution of phosphorus in absolute alcohol, and of the strength of 1 grain to 12 fluidrachms.

This elixir, when properly prepared (it should be perfectly clear), and stored in a dark place, and in small, full, well stoppered vials, will keep for a long time. In giving phosphorus, the liquid form is preferable to the solid form (such as pills), on account of the certainty that the substance has been perfectly divided.

Elixir Taraxaci Compositum—Compound Elixir of Taraxacum.—An aromatic syrup, prepared by making 16 fluidounces of a tincture (with 1 volume of alcohol and 2 volumes of water) from 1 troy ounce, each, of taraxacum, wild cherry, and sweet orange

peel, 3 troy ounces of peeled Russian glycyrrhiza, 120 grains each of Saigon cinnamon, cardamon, Canada snake-root and caraway, and 40 grains of cloves, and finally adding 32 fluidounces of syrup. (See *National Formulary*.)

Note.—This elixir is used as a vehicle for quinine and other bitter medicines. Quinine, or its salts, should be incorporated with it only mechanically, and no acid should be used to effect solution, as this would precipitate insoluble glycyrrhizin.

Vinum Carnis et Ferri—Wine of Beef and Iron :

R.—Ext. carnis (Liebig) gr. cclvj.
Tinct. ferri citro-chloridi m cclvj.
Aque f 3j.
Vini xerici q. s. ad f 3xvj.

Dissolve, mix and filter.

Each fluidrachm represents 2 grains of extract of beef, and 2 minims of tasteless tincture of iron.

Vinum Carnis, Ferri et Cinchonæ—Wine and Beef, Iron and Cinchona (Calisaya) :

R.—Ext. carnis (Liebig) gr. cclvj.
Tinct. ferri citra-chloridi m cclvj.
Quiniæ hydrochloratis gr. xvj.
Cinchonidinæ sulphatis gr. viij.
Acidi citrici gr. vj.
Aque f 3iv.
Syrupi f 3iss.
Vini albi dulcis q. s. ad f 3xvj.

Dissolve, mix and filter.

Each fluidrachm contains 2 grains of extract of beef, 2 minims of tasteless tincture of iron, and smaller quantities of cinchona alkaloids.

Note.—The "Sweet White Wine" directed by the formula may be either the California wine, known as "Angelica," or some other similar variety.

Vinum Ferri et Quiniæ :

R.—Liquor ferri et quiniæ cit. f 3ij.
Vini xerici q. s. ad f 3ij.

Mix.

Dose.—A teaspoonful.

Medical News and Miscellany.

DR. MUSGROVE, of Puyallup, Wash., reports that in a very obstinate case of pruritus vulvæ application of chloroform and vinegar accomplished a cure.

At the annual meeting of the Wayne County Medical Society, at Honesdale, Pa., May 30, 1892, the following officers were elected to serve one year: President, Dr. C. A. Dusenberre, Honesdale; Vice-President, Dr. H. Plum, Hawley; Secretary, Dr. R. G. Barckley, Honesdale; Treasurer, Dr. R. W. Brady, Honesdale. The society numbers fifteen members in good standing.

THE mortality tables show a gratifying decrease in the number of deaths, not only as to the total number, but also in the case of certain diseases against which the Board of Health has been active. The zymotic diseases especially show a falling off, which is highly gratifying. The Board of Health's efficiency can be pretty accurately gauged by the number of deaths from these affections, for every case comes from some previous one which has not been efficiently guarded. The present Board has shown its excellence by the manner in which it has checked the spread of two of the most dangerous diseases of that class, scarlet fever and diphtheria. If the physicians of the city would do their duty in reporting promptly every case, both these diseases would be practically eradicated from the city, and the general death-rate correspondingly reduced.—*Ledger*.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—At a special meeting of the Board of Trustees Dr. W. Frank Haehnlen, Demonstrator of Obstetrics at the University of Pennsylvania, was elected Professor of Obstetrics; Dr. W. Easterly Ashton, Lecturer on Gynecology at Jefferson Medical College, Professor of Gynecology; Dr. Chas. M. Seltzer, Professor of Hygiene; Dr. H. H. Boom, Adjunct Professor of Chemistry; Dr. B. T. Shimwell, Adjunct Professor of Operative Surgery.

E. LAPLACE, M.D., *Secretary.*

CHOLERA PROSPECTS.—Cholera is causing a good deal of anxiety to the Russian Government. The disease is stated to have broken out in Afghanistan as well as in Persia, and it is feared that it may make its way into the Transcaspian provinces, the sanitary state of which is deplorable. Owing to the filthy state of the irrigation canals and to the general neglect in Bokhara and Transcaspia, it is believed that Cholera, once imported, would spread both rapidly and in a virulent form. Hence, a Commission of Prevention has been appointed, and it is stated that directly news is received to the effect that either Herat or Candahar is infected, prompt measures of control on the Russian frontier will be initiated. In the meantime, sanitary improvements, especially with regard to water supply, are being undertaken. But these are hardly likely to be of much avail in the face of any immediate danger, for such works cannot be perfected at a moment's notice.

DR. HENRY F. FORMAD, who died Monday last, was even better known outside Philadelphia than he was in the city of his adoption. His learning was exceptional in the particular branch of medical science which he took up for his life study, and his reputation was almost world wide. That he should die at last of a disease whose origin and character none knew better than himself seems like the irony of fate. Microbes were his constant study, and he used to boast that he was proof against any inoculation, yet one usually considered the least dangerous of the family has killed him in a few hours. Yet the triumphs of modern medicine, part of which he contributed to, are not marred by such accidents, deplorable as they are. While men fought blindly against the unknown cause of disease, their blows were often misplaced or ill-spent. Dr. Formad was one of those who have poured a flood of light on the subject of the causation of diseases, and thus paved the way for their prevention, if not their cure.—*Ledger.*

NEW YORK STATE BOARD OF HEALTH.—The average daily reported mortality for the State during April was 353; in March it was 354; in February, 371; in April, 1891, it was (at the height of the grippe epidemic) 463; the average daily mortality in April for the past seven years is 347. Deaths continue to be reported from influenza and may be estimated at not less than 500, or 5 per cent. of all deaths—the entire mortality from this cause since the present epidemic began being to May 1 about 12,000. There were 250 less deaths from acute respiratory diseases than in March and a similar diminution in deaths from old age. The percentage of deaths under the age of five years has increased. Measles caused an increased number of deaths. Diphtheria is reported as prevalent at several localities, among them Jamestown, Hoosick Falls and Oneonta; the mortality from it in the State is somewhat diminished. Typhus fever caused three deaths in New York. Small-pox

caused eleven deaths, all in New York, except one in the Hospital for Contagious Diseases, at Flatbush, and one in Syracuse, which was imported from Brooklyn, its spread being limited to one secondary case. The annual death for the month, allowing for delayed returns not yet reported, is about 22.00 per 1,000 population for the entire State.

WEEKLY Report of Interments in Philadelphia, from May 28 to June 4, 1892:

CAUSES OF DEATH.		Adults.	Minors.	CAUSES OF DEATH.		Adults.	Minors.
Abscess.....	1	1		Influenza.....	1		
Abortion.....	1			Inflammation, bladder.....	1		
Alcoholism.....	3			" brain.....	3	10	
Apoplexy.....	13			" bronchi.....	1	2	
Asthma.....	1			" kidneys.....	1		
Bright's disease.....	8			" lungs.....	10	7	
Cancer.....	10			" pericardium.....	3		
Casualties.....	9	3		" peritoneum.....	5	2	
Congestion of the brain.....	1	3		" pleura.....	1		
" lungs.....	1	3		" s. & bowels.....	2	2	
Cholera infantum.....			11	" tonsils.....			1
Cirrhosis of the liver.....			2	Insanity.....	1		
Consumption of the lungs.....	39	5		Marasmus.....		19	
Convulsions.....	1	15		Measles.....		5	
Croup.....		2		Neuralgia of the heart.....	1		
Cyanosis.....	1	2		Obstruction of the bowels.....	1	1	
Debility.....		1		Old age.....		23	
Diabetes.....		1		Paralysis.....		4	
Diphtheria.....		20		Poisoning.....		1	1
Disease of the heart.....	19	2		Purpura hemorrhagica.....		1	
" kidneys.....		1		Pyæmia.....		1	
Drowned.....		1	3	Rheumatism.....		2	
Dropsey.....		2	4	Sclerosis.....		1	
Effusion of the brain.....		1		Septicæmia.....		1	
Erysipelas.....		1		Softening of the brain.....		4	
Extra uterine pregnancy.....		1		Suffocation.....			1
Fatty degeneration of the heart.....		2		Suicide.....		2	
Fever, remittent.....		1		Teething.....			4
" scarlet.....		10		Tetanus.....		1	
" typhoid.....		2	5	Ulceration of the bowels.....		1	1
" urethral.....		1		Uræmia.....		3	
Hemorrhage.....		1		Whooping cough.....			2
Hernia.....		1					
Inanition.....		2	8	Total.....		196	106

SPREADING SCARLET FEVER.—A lady describes how scarlet fever has been spread through an entire neighborhood on North Fifteenth street, by the indifference of the first sufferers to the safety of their neighbors. The first victims were two children of wealthy parents. When they recovered, the bedding that had been used was hung in the back yard to air, and soon after the children next door took the disease. Next a little boy, whose parents resided on the other side of the first sufferers, and about the same time the scarlet fever began to appear in the houses of which the yards looked out upon the yard where the bedding was exposed.

"In this case," the writer remarks, "the infection could be directly traced from the beds and bedding hung to air in the yard." She asks, "Is there no penalty incurred by people who are so totally reckless of the health and safety of a neighborhood? Walking down Fifteenth street," she continues, "I saw some little street children playing with carpet wadding, a quantity of which had been cast out in the street, and a corner grocery man told me it had come from a house where they had had the small-pox." [This is a mistake; there has been no small-pox in Philadelphia this year.—Ed. T. & R.]

There has been quite an epidemic of juvenile diseases this spring, as may be seen from the various orphan asylums and children's hospitals, where both diphtheria and whooping-cough have prevailed. No board of health nor any other power can control a juvenile epidemic like scarlet fever, but care-takers and parents ought to feel a great moral responsibility about guarding against spreading contagion.—*Taggart's Times.*